

HINDU CULTURE

*Economic
Development*

and Economic
Planning in India

K. WILLIAM KAPP

UNLIKE many economists who are concerned only with the elaboration of the logical consistencies of economic plants, Professor Kapp undertakes nothing less than an appraisal of the impact of existing social and economic institutions on planned economic development. In four major essays he submits Hinduism, as a religion and as a social system, to a careful analysis in an effort to determine the extent to which Hindu culture serves or contradicts the social purposes of India's development effort.

While considerable information is available regarding India's social structure as manifested in caste, the joint family and the village, much less is known about the effects which Hindu religion, thoughts and values (in short the 'ethos of Hinduism') may have on economic growth.

The author devotes special attention to the role of administrative deficiencies in the implementation of economic plans and the related legislative enactments primarily in the field of land reform. In addition, Professor Kapp deals with the benefits and social costs of regional development and irrigation projects and discusses the problems which arise in the evaluation of such benefits and costs. Two essays deal with the effects of a transition to mechanized farming and the problems of planning and freedom.

Professor Kapp's analysis reveals that certain aspects of Hindu culture

(Continued on Flap II)

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By the Same Author

THE SOCIAL COSTS OF BUSINESS ENTERPRISE

TOWARDS A SCIENCE OF MAN IN SOCIETY

HISTORY OF ECONOMIC THOUGHT—A BOOK OF READINGS

PLANSWIRTSCHAFT UND AUSSENHANDEL

Hindu Culture Economic Development and Economic Planning in India

A Collection of Essays

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PREFACE

THE ESSAYS published in this volume were written, with one exception, during the last four years, two of which the author spent in India on a Fulbright grant. They express his growing concern for the sharpening of India's economic and political difficulties which reached their culmination in the outbreak of hostilities with China in 1962. For some time there had been indications that economic development in India was not making sufficient progress. Although food production was expanding, it was not increasing in proportion to the requirements of a rapidly growing population. In fact, population was found to be increasing at a faster rate than earlier data and their analysis had shown and this despite the drive for "planned parenthood" supported by the government. During the early sixties it became evident that the establishment of major capital projects in a country like India was relatively easier than their efficient operation and maintenance. Problems of administrative reform assumed increasing importance ever since the Balwantray Mehta Committee presented its findings on the working of the Community Projects and the National Extension Service. With population increasing at an annual rate of almost 2.2 per cent and a quantitatively deteriorating and qualitatively inadequate system of local administration neither the problems of food production and unemployment nor such specific objectives as the construction of roads found adequate solutions—not to mention the increasing inadequacies in the supply of electric power, of sanitary facilities and a host of other problems. Despite substantial domestic efforts as well as a steady flow of capital and technical assistance from abroad it was becoming increasingly clear that past trends of economic stagnation had not yet been reversed and that economic backwardness could not be overcome by the limited scope of economic planning characteristic of the Five Year Plans. Indeed, economic development presupposes far-reaching economic, social and institutional change which can be achieved only by comprehensive and coordinated action in the form of social education, persuasion, legislation and its enforcement and administrative reform.

It is within this broad context of India's economic and political crisis that the author attempts to analyze Hindu culture in its effects

on economic development. Much is known about India's social system as represented by caste, the village and the joint family. Much less is known about the effects which Hindu religion, Hindu thought and Hindu values may have upon economic growth. It is these basic elements of Hinduism which not only underlie Hindu social organization but form a more or less coherent pattern to which we refer as Hindu culture in the contemporary sense of the term as used by modern cultural anthropologists. Hinduism as a religion and social system has not been studied in the same manner in which Max Weber analyzed the protestant ethic and the rise of capitalism. Weber's own studies on the religions of India, examine the professional ethic of the *Bhagavadgita* and these problems have again been discussed in considerable detail more recently.

By stressing Hindu culture as one factor which tends to retard India's economic development we do not deny that there are in addition important economic and other factors which may inhibit economic growth and social change. In fact, as our discussion makes amply clear, economic stagnation and economic growth have to be viewed as processes in which many factors are reciprocally inter-related in a kind of vicious circle. For this reason, as Gunnar Myrdal has pointed out, the hypothesis of cumulative causation should be the main theoretical framework for the study of under-development and development.

The three essays on Hindu culture and economic development which are published here for the first time were written after and not before the essays dealing with such specific problems as public administration, regional development projects and social costs and social benefits and their relevance for economic planning. However, throughout his studies in India the author has attempted to view problems of economic development in the context of Hindu culture and in the light of the principle of cumulative causation.

The essay dealing with social costs and social benefits and their relevance for economic planning was presented as a paper at the meeting of the *Gesellschaft für Wirtschafts- und Sozialwissenschaften* in Homburg, in April 1962. It is included in the present collection with the kind permission of the *Gesellschaft*. The essay on *Economic Planning and Freedom* appeared first in *Weltwirtschaftliches Archiv* in 1950; it is reprinted here in a revised form. I also wish to thank the editors of *Kyklos*, *Weltwirtschaftliches Archiv*, *Economic Growth and Cultural Change* and the *Political Science Review* of the Uni-

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versity of Rajasthan for their permission to include in this volume essays which had appeared in these journals.

I wish to record my appreciation for the stimulating discussions which I had with many of my colleagues in Poona and Jaipur. While they doubtless contributed to the formulation of my ideas, they do not necessarily share my specific views. My wife is not only the co-author of the three essays dealing with Hindu culture and economic development but has collaborated closely in the extensive research for the other essays. Finally, I want to thank my friend, Mr. Mulford Martin, for his help in editing the manuscript. He has contributed greatly to the improvement of the form and substance of the text.

K. WILLIAM KAPP

Rockfall, RFD 415, Connecticut
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November, 1962

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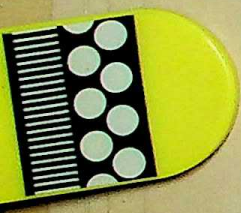
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PART I

HINDU CULTURE AND ECONOMIC CHANGE



I

HINDU CULTURE AND ECONOMIC DEVELOPMENT

In collaboration with

LORE L. KAPP

THE STUDY of economic development can no longer dispense with the analysis of the role which tradition and institutions play in the process of economic growth. Pre-industrial societies are characterized by distinctive socio-cultural arrangements which are rooted in the past and bear the stamp of pre-technological cultures. These institutional arrangements often stand in the way of a more rational use of available resources and they may well offer the main explanation for the slow rate of development of many underdeveloped economies. They may account not only for the admittedly low rate of capital formation but also for the low productivity of most capital investments. In other words, the fact that there has been no major breaking away from past trends of retarded growth may have to be traced back to a conflict between traditional institutional arrangements and the objectives of economic development which, while more or less generally accepted by an urban middle class elite, can only be ineffectively pursued within the existing pattern of values and behaviour. Indeed, traditional culture patterns may be so strong and may possess such vitality that they actually have the power to arrest and ultimately to exhaust the momentum of economic growth. The often discouragingly slow progress lends support to Veblen's position that institutionalized traditions may "contaminate" socio-economic reforms and prevent them from attaining full fruition. Thus for example, measures of land reform may be evaded and defeated by the hierarchical structure of the rural community. The productivity of additional investments may be threatened by limited aspirations, administrative inefficiency, outright corruption or a general atmosphere of apathy and lack of participation. Similarly, traditional orientation and kinship organization may defeat measures designed to reduce the birth rate which together with the decrease of mortality accounts for the growing imbalance between population and production and which may ultimately check the rate of growth altogether.

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In a general way, the authors of India's *Third Five Year Plan* seem to be fully aware of the interrelationship between institutions and economic development. Indeed, they suggest that "the existing social and economic institutions have . . . to be appraised from time to time in relation to their role in the nation's development. To the extent they do not adequately fulfil the social purpose or fail to secure the economic aims of planned development, they have to be replaced or transformed."¹

However, the questions as to who is to undertake the appraisal and what practical steps may be called for to transform or replace existing institutions are left open. As a matter of fact, there is apparently no systematic analysis of the type of institutions which may be inimical to economic development and no inquiry into the particular manner in which traditional institutions may retard economic growth. Nevertheless, there can be no doubt that the authors of the *Third Five Year Plan* are concerned with the need for institutional reform and that they realize that economic planning without institutional change will not promote lasting economic development. The Plan does, in fact, refer to numerous conflicts and barriers to economic advance inherent in the rigidities of the caste system and other social and economic inequalities which are characteristic of the social system. Similarly, at the political level, it is significant that the 1961 Election Manifesto of the ruling Congress Party recognizes the existence of these major hindrances and obstacles to growth. It views the process of India's economic transformation not only as a process of political change but above all as

"a transformation of a caste and a faction-ridden backward society into a unified and integrated community . . . The fundamental problem in India is not only to increase greatly the living standards of the people, but also to bring about progressively social and economic equality. Existing inequalities and disparities in the social fabric are ethically wrong and will obstruct progress on all fronts and produce considerable strains. The new social order must preserve the worth and dignity of the individual and create a sense of equality, fraternity and of cohesion."²

¹ *Third Five Year Plan*, Government of India, Planning Commission, New Delhi, 1961, p. 8.

² *The Hindustan Times*, September 20, 1961, p. 6.

In short, both the *Third Five Year Plan* and the Election Manifesto give at least political recognition to the view that the objectives of economic development call for social change and transformation if not replacement of obsolete institutions.

This is a significant departure from the position of the mechanical determinist who believes that institutional changes are inevitable side-effects of economic development and who assumes an attitude of *laissez-faire* to institutional reform. Such an attitude overlooks the fact that the forces of economic change may be too weak to affect significantly the traditional culture pattern. The mechanical determinist tends to neglect the often strategic role of institutions and fails to take account of their specific consequences; indeed, he tends to analyze economic processes in an institutional vacuum. Traditional economic theory and model builders have often been criticized for this concentration on "purely economic" or quasi-mechanical relationships which assume an institutional framework which is essentially favourable to economic growth. What is more, they neglect the fact that the process of economic development in the West and in the Soviet Union was either preceded or accompanied by far-reaching socio-cultural changes which in the end radically transformed the predominant personality structure of Western man. It will be useful to recall briefly the nature of these social changes in order to set the stage for an appraisal of the distinctive features of Hindu culture and its possible impact on economic development.

The transition from traditional to modern industrialized societies in Europe was greatly facilitated by a process of secularization which had its beginning in the Renaissance and took specific shape in the Protestant Reformation and the emergence of the "capitalist" spirit. This secularization changed the outlook and attitude of large masses of people; it provided a new pattern of motivation and morality which helped mobilize their emotional and religious energies for secular pursuits of a distinctly experimental and utilitarian nature. In short, it was this process of modernization which changed the style and the aspirations of men living in a traditional society into those of the modern individual of the contemporary Western world. Instead of a popular religiosity surrounded by group rituals and superstitions resisting change, and strong reliance on custom and tradition, man in modern societies may be said to be more open to the pragmatic test, more

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hedonistically rational and experimental, and guided by universalistic ethical and legal norms. Although Max Weber's thesis has been subject to misinterpretation it will hardly be denied that the Reformation, by providing a religious reinterpretation of older tenets, advanced a new and powerful sanction for hard work and thrift. What is more, the Protestant ethic not only provided the religious sanction for sustained activities but it channelled human energies into an inner drive toward work. Indeed, what took place under the combined impact of economic and intellectual developments was nothing less than the emergence of a new personality structure which was well suited for the production of wealth. Such highly important prerequisites of modern industrial activities as punctuality and orderliness became human strivings first under the impact of the Protestant ethic.³

In addition to these religious and psychological factors there were of course other forces which reinforced the modernization of Western societies. The political unification of large masses of people in national states with administrative centres, the breaking up of institutional barriers which tended to block social and economic mobility, the gradual dissolution of various forms of slavery and serfdom and of other social and economic inequalities and disabilities, opened avenues of advancement to practically all social groups. Indeed, the whole process of economic advance in the West was accompanied by a progressive equalization of opportunity and particularly of educational opportunity. Literacy

³ "Modern industrial society, for instance, could not have attained its end had it not harnessed the energy of free men for work in an unprecedented degree. He had to be moulded into a person who was eager to spend most of his energy for the purpose of work, who acquired discipline, particularly orderliness and punctuality, to a degree unknown in most other cultures. It would not have sufficed if each individual had to make up his mind consciously every day that he wanted to work, to be on time, etc. since any such conscious deliberation would have led to many more exceptions than the smooth functioning of society can afford. Threat and force would not have sufficed either as motive for work since the highly differentiated work in modern industrial society can only be the work of free men and not of forced labour. The *necessity* for work, for punctuality and orderliness had to be transformed into a *drive* for these qualities. This means that society had to produce such a social character in which these strivings were inherent." E. Fromm, "Psychoanalytic Characterology and its Application to the Understanding of Culture", in S. S. Sargent and M. W. Smith, eds. *Culture and Personality*, Proceedings of Interdisciplinary Conference, New York, 1947, New York, Viking Fund, 1949, pp. 5-6.

became widespread. Where the competitive process failed to provide adequate protection against the abuse of economic power, group cooperation and group action provided a more or less effective countervailing power. Moreover, the progressive removal of barriers to social mobility in the West was greatly aided by a religious and ethical orientation toward individualism. It is this orientation which, strengthened by the philosophical doctrines of human equality, provided the psychological and ideological momentum for the elimination of social barriers and rigidities.

In studying the impact of Hinduism on economic development we need first of all a clear conceptual framework and an understanding of what we mean by Hindu culture. The term is used here as a conceptual framework designed to convey an admittedly simplified picture of the basic rules and patterns of human behaviour. As such it has reference to the patterns of thought, emotions, values, ideas and categories often expressed in symbols which shape human awareness and human experience. These patterns influence the way in which man looks upon himself and his role in the universe. Culture in this sense not only filters human experience but organizes behaviour. It provides the background for the enculturation of every child; it sets the stage for the emergence of the human personality and the predominant or social character of the adult. It is within this culture that man must find outlets for his creative abilities and for the exploration of new ideas, values and activities. Culture excludes certain thoughts and feelings; it influences what is considered desirable; it selectively validates those behaviour patterns which evoke the approval of society. Indeed, culture conditions our conscious and unconscious desires and feelings, gives meaning to behaviour and provides the rationale for living.

As a conceptual framework of analysis culture is a generalized image of behaviour from which in fact it is inferred; i.e., it is not a mathematical construction or a free invention but a real type. It never loses its reference to concrete observable phenomena. More specifically, it refers to those general uniformities of behaviour which find an expression in an essential core of traditional (i.e. historically derived and selected) ideas, beliefs, concepts and values which are acquired in the course of a prolonged process of enculturation and are transmitted by symbols.

As a conceptual framework culture is necessarily of a generalizing nature; i.e. in order to interpret what is often a complex social con-

figuration we must simplify and disregard the atypical, the regional variation of the main theme or the disparate elements reflected in this or that sub-culture. This does not mean that in using the culture concept the social scientist is unaware of differences in value orientations, aspirations and behaviour patterns. Only a complete misunderstanding of the aims and procedures of theoretical analysis can support the fallacious belief that social analysis neglects or ignores cultural diversities because it abstracts. The social scientist does not provide a photographic reproduction of every detail; nor does he aim at a concrete description of particular social events or sequence of events. In the course of the following discussion it will be necessary to bear in mind this generalizing nature of the culture concept; otherwise the reader may be constantly tempted to criticize our analysis by referring to personal experiences or individual cases which do not quite conform to the generalized picture provided by the culture concept. This caution is particularly important in the analysis of Hindu culture which has grown by "agglomeration" rather than by selection and thus presents a highly diversified picture.

One further point needs to be made explicit even though it is implicit in our discussion. The use of the culture concept does not deny that culture systems are in constant flux. Despite the fact that the pattern of a culture is integrated, culture systems are constantly exposed to internal and external pressures which may either be absorbed or which may lead to the emergence of new structural relationships and ultimately to new aspirations and patterns of behaviour. Indeed, the culture concept does not subvert social analysis into a new "dismal science of functionalism" as has been asserted by some of its critics. In its comprehensiveness and explanatory importance the concept of culture comes close to that of gravity in physics and evolution in biology and may well become one of the common denominator concepts for the integration of social knowledge.⁴

⁴ We have dealt with these issues and the possible criticism that may be advanced against the culture concept in another context. See K. Wm. Kapp, *Toward a Science of Man in Society*, The Hague, Martinus Nijhoff, 1961. For a more detailed analysis of the earlier concepts and definitions of culture see A. L. Kroeber's and C. Kluckhohn's "Culture: A Critical Review of Concepts and Definitions," *Papers of the Peabody Museum of American Archeology and Ethnology*, Cambridge, Mass., Harvard University, 1952, vol. XLVII, No. 1. On culture as a background for the projection of the creative aspects of human

What are the distinctive features of Hindu culture? Can we identify the basic ideas and value orientations which shape the aspirations and behaviour patterns of the "Hindu"?⁵ More specifically, what are the distinctive features of Hindu culture which filter the awareness and experiences of the great majority of Hindus and provide a background for the projection of their creative abilities and their responses to new experiences? What are the essential elements of Hindu culture in the light of which man formulates his notions of what is right or wrong? And finally, in which way are these elements of Hindu culture reflected in the social institutions which determine and delimit the opportunities of material advancement and social change?

In attempting to answer these questions we are, of course, aware of the special difficulties confronting the scholar who is not himself steeped in Hindu tradition and whose linguistic limitations prevent him from examining important source materials in the original. While these limitations may indeed lead to oversimplification and misinterpretation it cannot be said that complete integration in a given culture and command over its ancient language are absolutely indispensable prerequisites for its interpretation. It will perhaps be admitted that some Indian social scientists are not wholly immune to oversimplification and misinterpretation while the scholar from abroad may possibly bring to bear upon the materials a perspective and a frame of reference which the insider may not necessarily have.⁶

As a system of religion, Hinduism has shown and continues to show a remarkable ability to absorb and combine the most contradictory creeds which have had their origin in different stages of social development. Indeed, Hinduism is probably the most "catholic" of all religions, accommodating as it does practically all known interpretations of the universe from magic, totemism and animism,

responses see M. J. Herskovits, "The Problem of Adapting Societies to New Tasks", in B. F. Hoselitz, (ed.) *The Progress of Underdeveloped Areas*, Chicago, Chicago University Press, 1952.

⁵ In this context the term "Hindu" does not only refer to members of a particular religious group but includes all those persons who although of a different religion nevertheless share important value orientations and behaviour patterns of the Hindus.

⁶ See D. P. Mukerji, "Indian Sociology and Tradition", in R. N. Saksena (ed.) *Sociology, Social Research and Social Problems in India*, Bombay, Asia Publishing House, 1961, pp. 22-23.

to various forms of nature worship, ancestor worship and faith in numerous deities and abstract philosophical principles. It is this capacity of adjusting and combining seemingly disparate creeds and contradictory systems of belief which more than any other factor accounts for the unique vitality and longevity of Hindu culture. Due to its ability to accommodate dissimilar elements and to give them a relative measure of unity and integration, Hindu culture has achieved a complexity and diversity which is probably unequalled in the history of mankind.

The second feature of Hindu culture which we wish to single out before undertaking a more detailed analysis is the extraordinary interpenetration of the religious and the profane. Hinduism as a religion and Hindu social organization are so intimately interconnected that it becomes impossible to distinguish the sphere of the sacred from that of the social. Indeed, the relation between the sexes, birth, death, the role of sons and daughters, occupation, the attitude toward work and its fruits, the meaning of freedom and "salvation", man's relation to the physical world including animals, and particularly the cow, are all mediated by and integrated into an essentially religious system of vast cosmological proportions and regularities. As a result, Hindu culture must be regarded at the same time as a religion and as a social system. This is an important characteristic which in effect tends to provide religious sanction to a great number of facets of the social system which in modern civilizations have become clearly secular in character.

A third important element in Hindu culture is the fact that until recently, and with the exception of a small urban middle-class elite, the unit of action and the source of aspiration in Indian social life is not the individual but the group as represented by the extended family and the caste. Group membership shapes the aspirations and desires of the great majority of the people of India and these group aspirations are in turn moulded by the traditional patterns of behaviour prescribed for the various status groups of Hindu society. Hence the premium is on tradition-determined action rather than on voluntaristic individual action. Thus, traditions are permitted to play a much more important role in India than in Western societies. For this reason it is doubtless correct that group traditions and group aspirations rather than individual action patterns must be the unit of investigation for most social research in India.

It may be useful to mention at the very outset some important consequences which would seem to follow from the group-action character of most Hindu behaviour patterns. Not only are levels of aspiration dictated by the group and hence are as static or dynamic as group tradition permits them to be but the failure to reach traditional goals need not be experienced as a source of individual frustration. In fact, the individual may not even feel regimented by the traditional limits and prescriptions set for him as a member of the group.⁷ We shall revert to this point later.

What are the basic ideas and categories which traditionally have shaped the thought and action pattern of the Hindu? It would be a mistake to believe that the basic categories which shape human awareness and filter human experience are universal and common to all people. Actually even such fundamental categories of thought as reality, time and duration, history and causation tend to differ between pre-scientific cultures and technological civilizations.

Hindu religion assumes as "real" something that precedes and antedates historical time. It is not the "actual" condition of human existence in its historical and secular unfolding but something beyond, before and after that is postulated as absolute reality. In harmony with this metaphysical notion of absolute reality the notions of time and duration transcend historical time and the dimension of history altogether. In fact, in contrast to Western thought, time and duration are conceived in harmony with, and as part of, a pattern of periodical recurrences. Time and duration are viewed not as a linear process but as repetitive and cyclical. Hinduism shares with many pre-technological civilizations the older and archaic concept of time and duration modelled in harmony with universal cosmic and biological recurrences. In this sense Hinduism must indeed be said to have remained radically and naively empirical. The cyclical concepts of time and history as returning upon themselves reflect faithfully man's early experiences of the world. In pre-technological societies man's primary modes of production depend upon such recurring events as the seasons, the rising and setting of the sun and climatic changes. Human life itself appears as a cycle of birth, youth, maturity and death only to be succeeded by new life. Since man experiences the world as a repetition of observed and directly sensed events his basic understanding and conceptualizations of time and duration

⁷ D. P. Mukerji, *op. cit.*, pp. 24-26.

are likely to be cyclical rather than linear in character. Indeed, the idea of time and duration and of history as a linear, man-made process can hardly occur under such conditions.⁸ In contrast, modern civilizations which have incorporated into their thought and action patterns the implications of techniques derived from modern physics and chemistry have secularized time and duration (including history) and view both as linear.⁹

The cyclical concept of time and duration tends to commit the Hindu mind to a concept of cyclical causation which can only have the most far-reaching consequences for his interpretation of history, his role in the Universe, and the sequence of events in general. For, if history and the sequence of events must be understood as part of the general process of cosmic recurrences, causation itself becomes cosmic and cyclical. Indeed, strictly speaking, all causes and effects tend to be viewed within a general scheme of cosmic causation. The Indian cultivator who even today often believes that an "increase in yields is not due to improved techniques but to our fate and *Karma*"¹⁰ simply transfers his metaphysical notion of cosmic causation to a concrete problem of economic life.

If we raise the further epistemological question of how to attain knowledge about these cosmological processes and recurrences and how to establish the "truth" about them the answer again is likely to differ from that given in a technological society. Absolute reality, cosmological causation and the notion of cyclical time cannot be subjected to the empirical test in the same way in which we establish or refute a scientific hypothesis. They call for intuition rather than logic and reasoning. That is to say, knowledge and truth assume a special character. They are above reason, calling for an inner disposition, an experience, a vision—a cos-

⁸ F. S. C. Northrop, "Man's Relation to the Earth in its Bearing on his Aesthetic, Ethical and Cultural Values," in Wm. L. Thomas, (ed.) *Man's Role in Changing the Face of the Earth*, Chicago, Chicago University Press, 1956, pp. 1052-1067.

⁹ "It is historicism that definitely secularises Time, by refusing to admit the distinction between a fabulous Time of the *beginnings*, and the time that has succeeded it. No magic any longer illuminates the *illud tempus* of the 'beginning': there was no primordial 'fall' or 'break' but only an infinite series of events, all of which have made us what we are today." M. Eliade, *Myths, Dreams and Mysteries*, London, Harvill Press, 1960, p. 55.

¹⁰ Kusum Nair, *Blossoms in the Dust*, London, Duckworth and Co. Ltd., 1961, p. 79.

mological¹¹ rather than a logical attitude which enables the seeker after knowledge or rather the enlightened to be one with the object and to penetrate the veil of illusion which hides true reality and to remove so to speak with one stroke what are considered to be obstacles to real knowledge.¹² Hence the appropriate procedure can only be correct discipline, rectitude, initiation, correct meditation and intuition and not the empirical test and the repeatable experiment.

Needless to add that if knowledge and ultimate truth are attainable only as a result of direct intuitive experience—an inner disposition—there can be neither absolute truth nor absolute knowledge. In fact, there must be as many truths and as many facets of reality as there are “inner dispositions” and frames of reference. The origin of “tolerance” in the Hindu mind can be traced back to this recognition of an abundance of inner attitudes each of which may provide access to a particular facet of reality. Whereas European philosophy has tended to reject contradictory categories and, moreover, has sought to interpret reality in terms of clear-cut distinctions aiming at absolute truth, Hindu epistemology has recognized a multitude of standpoints and degrees of truths without totally rejecting any of them.¹³

It has been necessary to provide this short outline of Hindu religious metaphysics in order to make plausible the Hindu interpretation of the conditions of actual human existence. For the latter is part

¹¹ K. Shridharani, *My India, My America*, New York, Duell, Sloane and Pearce, 1941, p. 261.

¹² “Knowledge, the transcendent virtue by divine right, is above Reason. It is the fruit of a direct intuitive experience, which is not so much a thing acquired by accretion, rather it is a thing which is already there, from the moment that the obstacles to its realization have ceased to be. The effort of the seeker after this Real Knowledge is all along directed towards elimination of hindrances, to allowing the Knowledge to arise spontaneously, as it will do the instant the necessary *undoing* has been effected.” M. Pallis, *Peaks and Lamas*, London, Cassel and Co., 1939, p. 166.

¹³ “Even before Hegel Europe had tended to interpret reality in terms of *absolute truth* and *absolute error*. This has given intensity and rigour to European thought but it has also tended to make the European attitude to truth dogmatic and narrow. Indian philosophy has, on the other hand, recognised from the earliest times that the real has many facets and cannot be expressed in terms of purely contradictory categories. Indian philosophy has recognised degrees of truth on a scale which has perhaps no parallel in European metaphysics.” Humayun Kabir, “Restoration of Reason,” *Radical Humanist*, Nov. 9, 1958, pp. 525ff.

of the former and cannot be fully understood in isolation. Indeed, human life and social events are viewed within the framework of cosmic regularities. They derive their full meaning and value only from these cosmic events of which they are integral parts. In their interconnectedness with the cosmic process, they are themselves subject to cosmic recurrences and cosmological causation. Rebirth and the transmigration of souls are in effect merely the logical extension to human life and to the human situation of the principle of recurrence and cyclical causation. The law of *Karma* is merely an extended version of the eternal return posited by the cyclical concept of time and causation. In fact, viewed in this fashion rebirth and the transmigration of souls appear not only cosmologically plausible and necessary but may even be said to be a matter of cosmic justice or equitable retribution in nature. For evidently "cosmic justice demands that there should be strict and equitable retribution in nature—a strict balance of action and reaction".

For "no one can escape or evade the good or evil consequences of his deeds If he does not meet the consequences in this life here and now he must do so in some other life Life here must presuppose a previous life to account for the inequalities of circumstances and life. Death must lead to another life to make the dying person undergo retribution for what he has done in life. Pre-existence and post-existence are implied in the law of justice. Rebirth or reincarnation is thus not only a fact known directly to seers but also a logical necessity."¹⁴

This is the final and we believe fatal consequence of the cyclical interpretation of time and causation and of the Hindu religious interpretation of the human situation: the conclusion, namely, that man's situation, i.e. his suffering and his fortunes in this allegedly illusionary world, are causally and morally connected with his deeds and unfulfilled desires in previous lives.¹⁵ Interpreting

¹⁴ B. L. Attreya, "Indian Culture, Its Spiritual, Moral and Social Aspects", in UNESCO, *Interrelations of Cultures* (Collection of Intercultural Studies), 1953, pp. 139-40.

¹⁵ "Why do we come back to the physical world? . . . It is because we have entertained many desires connected with this world which still remain to be fulfilled, and because we have incurred here many debts that we have to pay off." *Ibid.*, p. 139.

time, duration, history and causation in a cosmological and cyclical manner, Hindu metaphysics tends to seek the explanation of events and of whatever may befall man not in social institutions or in man's own action or for that matter in the sins and virtues of parents and ancestors but in the individual's deeds and desires in past incarnations. Whereas the *Bible* seems to take a historical and almost a sociological-hereditary viewpoint when it announces that the sins of the fathers shall be visited upon the sons, the Hindu has only himself or his *Karma* to blame for his suffering. "The individual's condition on this earth is presumed to be not even remotely related to the virtues and sins of parents and ancestors, or to society past and present. It is exclusively connected with his individual *karma* and past incarnations: 'Who did sin, this man or his parents, that he was born blind?' To this ever-renewed question, Indian thought replies unhesitatingly: 'This man'."¹⁶ Thus, in harmony with the religious concepts of cyclical time and causality *Karma* becomes not only an iron law of inescapable retribution but an explanation and strong justification for the unequal distribution of good fortune and suffering in the material world of actual human existence. In this sense Hinduism is indeed a perfect example of a religion providing a rationalistic explanation for existing incongruities of suffering, fortune and merit.¹⁷

It is this iron law of inescapable retribution (*Karma*) which gives Hindu culture its distinct character. By connecting the actual finite human situation with the individual's previous incarnations, cause and effect are spread over totally different lives. As a result causation tends to lose all continuity and assumes a fatalistic tinge.¹⁸ In this way the law of *Karma* tends to support a general feeling of relative insignificance of human experiences within a given life span as compared with the broader and infinitely more important problem of spiritual perfection and release by obedience to one's *Dharma*. In fact it would appear that in comparison with obedience to one's duties and the ultimate goal of achieving *moksha* attempts to master the problems of this transitory world

¹⁶ A. de Riencourt, *The Soul of India*, New York, Harper and Brothers, 1960 pp. 106-107. See also A. K. Coomaraswamy, *Buddha and the Gospel of Buddhism*, London, Harap and Company, 1928, p. 109.

¹⁷ Max Weber, "The Social Psychology of the World Religions," in *From Max Weber, Essays in Sociology*, H. H. Gerth and N. W. Mills, eds., London, Routledge, Kegan and Paul, 1948, pp. 271-76.

¹⁸ A. de Riencourt, *op. cit.*, p. 47.

are not only unimportant but illusory and that instead submission and acceptance of one's inescapable and inevitable situation is an appropriate and sensible course of behaviour.

Important schools of Hindu moral philosophy have drawn this logical conclusion: if the actual human condition must be accepted as transitory and illusory and if existence has to be viewed and valued in the last analysis as an opportunity to achieve release from an endless chain of incarnations, then the goal of liberation from the wheel of transmigration, renunciation and even withdrawal from worldly affairs become psychologically sensible and metaphysically understandable. While such withdrawal from and denial of life, if it ever had become universally accepted, would have led to mass-suicide, it is nevertheless true that contemplation, renunciation, sacrifice and austerity have continued to command the highest respect of the majority of Hindus. These value orientations have found their purest crystallization in those verses of the *Bhagavadgita* in which Krishna demands total renunciation of all desires and preaches the gospel of the performance of one's duties and one's prescribed activities without desire for the fruits of action.¹⁹ The *Gita* thus draws the radical moral conclusions from an essentially non-historical view of time, causation and the universe and denial of the ultimate reality of the actual human situation. By advocating the acceptance of one's *Dharma* as a prerequisite of salvation and release and by enjoining the individual not to be motivated by a concern for the fruits of action, it not only tends to lower the level of human aspiration but places a premium on passive acceptance rather than amelioration of the human situation whether by hard work or by social reform.²⁰

¹⁹ "To action alone hast thou a right and never at all to its fruits; let not the fruits of action be thy motive; neither let there be any attachment to inaction". "Therefore, without attachment, perform always the work that has to be done, for man attains to the highest by doing work without attachment." *The Bhagavadgita*, S. Radhakrishnan, ed., London, George Allen and Unwin, Ltd., 1948, pp. 119 and 138.

²⁰ The ideal of renunciation and control over one's desires and the recognition that the satisfaction of human desires can never be complete in as much as it gives rise to new desires is sometimes considered, not only in India but in the West, as a sign of the most profound wisdom of the Orient. The social scientist can hardly agree with this interpretation. While he may admit that renunciation and low levels of aspiration may reduce the danger of frustration, the social scientist will tend to interpret the doctrines of renunciation and *Moksha* as a justification of escape born out of a desire to abandon the struggle under adverse

An alternative interpretation of the ideal of renunciation within the context of the doctrine of rebirth has been advanced recently. According to this interpretation the majority of Hindus are actually savers who cling to material objects because "we have to consider the unborn who will be ourselves."²¹ Under these circumstances the philosophy of renunciation and the doctrine of rebirth must be understood as "an antidote devised by the Hindu moralists to cure us of our desperate clinging to things mundane."²² Even this interpretation is not more favourable to economic growth and development inasmuch as it would explain only a relatively high propensity to save without encouraging a high rate of investment.

The foregoing analysis must not be taken to suggest that the core of Hindu metaphysics and moral theory sanctions only the persevering dedication of the beggar-saint and the self-sacrificing personality. If this were the case, Indian civilization could hardly have survived. It is one of the apparent paradoxes of Hindu culture that it also has room for, and indeed recognizes as valid, an often relentless pursuit of material values by those groups of society whose inherited occupations and *Dharma* call for such pursuits. This is a matter which brings us to the consideration of the function of caste and of the Hindu social system, both of which

circumstances. When the outcome of one's action depends upon factors beyond one's control, when half of all harvests are either partial or complete failures, when one's health and welfare seem to be constantly threatened by the uncertainties of the climate, human initiative and aspirations are checked and the only reasonable refuge left seem to be submission, acceptance or escape. The same holds true under conditions of an overpowering social environment. When power is absolute and arbitrary "when life is insecure, injustice rife, when tyranny and violence rule the mundane scene, there is for meek natures no refuge save in flight or submission". W. M. Dixon, *The Human Situation*, London, Arnold, 1937, p. 243. Where in addition death rates are high and life expectancy low, there may be no other human response than that of a general existential anguish which can be appeased only by denying ultimate reality to human life and by wishing to exchange it for extinction. "The horror of life must be strong upon you when you desire to exchange it for utter nothingness." *Ibid.*, p. 201. The doctrine of renunciation and *moksha* reflect the conditions of human existence in pretechnological civilizations in which man experiences the limitations of his power to cope with the problems of survival. Today it belongs to those institutionalized belief systems which are outdated and in need of reinterpretation or replacement.

²¹ N. C. Chaudhuri, *A Passage to England*, London, MacMillan & Co., Ltd. 1959, p. 12.

²² *Ibid.*, p. 12.

will be discussed subsequently. Here it is necessary only to point out that Hindu metaphysics lends religious sanction to the pursuit of one's inherited status and profession particularly during the second or household stage of the fourfold division of one's life. This second stage occupies an important and indispensable place among the four *ashramas* or stages through which the individual is supposed to pass. The pursuit of wealth and of sensual pleasure (*artha* and *kama*)²³ is not only legitimate but a duty and social obligation which must be practised in accordance with the rules and the advice offered by the *guru* of the preceding stage.²⁴

Thus, while it is doubtless correct that Hindu philosophy need not turn its adherents into ascetics or that it is altogether opposed to the pursuit of material objectives, it is nevertheless true that such pursuits are subordinate to the overruling value orientations of Hindu religion, Hindu metaphysics and Hindu culture. While the pursuit of wealth is sanctioned and justified it also partakes of the illusory character of all worldly pursuits. Certainly as compared with renunciation and contemplation they are inferior as a source of liberation and release. There remains thus an unresolved dualism within the present human situation which explains the paradoxical coexistence in one culture system of contradictory value orientations and actual behaviour patterns. This dualism must itself give rise to contradictory strivings and ambivalent feelings weakening human motivation. It accounts for the fact that "there hangs over every effort of social and economic reform an

²³ We cannot go here into those doctrines which add up to an elaborate philosophy of pleasure and which identified the sexual-erotic passion with the divine. See H. Zimmer, *Myths and Symbols in Indian Art and Civilization*, ed. by Joseph Campbell, New York, Pantheon Books, 1946, pp. 123-47. See also F. S. C. Northrop, *The Meeting of the East and West*, New York, The Macmillan Company, 1946, p. 371.

²⁴ The doctrine of the four *ashramas* holds that each individual should pass through four stages and live in them in accordance with the *sastras* if he desires to achieve liberation (*moksha*). These four stages of life are, first, that of youth and discipleship marked by chastity and obedience to one's religious *guru* (teacher); second, that of married life and the exercise of one's inherited profession; third, that of spiritual maturity and renunciation of secular possession and family life, to be spent in contemplation and ascetic practices in an effort toward realizing the eternal in man and the universe; and, finally that of old age to be spent as a homeless beggar-saint "who walks along the roads apparently aimlessly yet actually on the path of liberation from the worldly bondage of rebirth." H. Zimmer, *op. cit.*, p. 42 and P. N. Prabhu, *Hindu Social Organisation*, Bombay, Popular Book Depot, 3rd ed. 1958, pp. 83-100.

important reservation: the happiness or well-being of the individual cannot be found within it."²⁵ In other words while Hinduism recognizes the pursuit of practical affairs as indispensable it does so only in relation to its broader scheme of religious goals, namely that of liberation and release. Thus despite all the justifications which Hinduism provides for involvement in the affairs of the practical world and despite the predominant role which the pursuit of profits and pleasure may play in certain sections of the urban middle class, and among rural moneylenders and landowners, it remains nevertheless true that these activities can occupy only a secondary and subordinate role in the Hindu scheme of values. It is the great saint and not the practical man who occupies the place of honour. Renunciation, austerity, sacrifice—and not the accumulation of wealth or political power—will gain the full respect and admiration of the Hindu.²⁶ Such is the inevitable outcome of a culture which has permitted traditional metaphysics and religion to embrace the sacred and the profane and made the preoccupation with absolute reality more important than concern with the amelioration of the actual conditions of human existence.

Preoccupation with an ultimate reality behind the actual conditions of human existence, the cosmological attitude and the traditional insistence on the unity of all life also account for important features of Indian ethics as reflected in the *ahimsa* ideal and the protection of the cow, which have far-reaching consequences on economic development. These ideals are directly related to the belief in a general oneness of all beings. Indeed, if all things and all beings including animals are rooted in the same ultimate reality, it follows that there is a fundamental unity of all life. All living things including plants and animals may then be one and interconnected by the cycle of eternal recurrences. While Western cultures and Western logic have made more or less clear-cut distinctions between the world of animals and man, the cosmological attitude and the search for the absolute (*Brahman*) appear to support a general identification and sensitivity toward all living creatures and an intuitive and aesthetic immersion in the unity of life. Although this attitude has not led to what would appear to be a necessary conclusion, at least from a Western perspective, namely

²⁵ J. Goheen in "India's Cultural Values and Economic Development: a Discussion". *Economic Development and Cultural Change*, October, 1958 p. 2.

²⁶ D. Narain, *Hindu Character*, Bombay, University of Bombay, 1957, p. 56.

a compassionate concern for the actual welfare of animals or, for that matter, to the enunciation of a doctrine of the fundamental unity and oneness of all men in the sense of their basic equality—the doctrine of the oneness of life supports an ethical doctrine of non-violence which has found a somewhat selective²⁷ application in the veneration of the cow and injunctions against meat (particularly beef) eating. This is not the place to enter into a detailed discussion of the effect of these injunctions and taboos on economic development. Suffice it to point out that the prohibition of the slaughter of cows, calves and other milk giving or draft cattle (enforced either by state or municipal regulations) is not simply an illustration of one of the many food taboos characteristic of other civilizations²⁸ but is in modern India sanctioned by religion and the Constitution (Section 48). We shall return later to some of the more obvious effects of this prohibition.

Equally important if not more so, in connection with economic development, are the ethical rules of behaviour which guide interpersonal and group relations in a culture in which caste divides people into different groups. The resulting isolation and aloofness which separate members of different castes can be fully understood only after an analysis of the Hindu social system. It is this analysis which will concern us in the following essay.

²⁷ Jains and Buddhists are more consistent in this respect. Jains oppose the killing of any animal including locusts and mosquitoes and oppose the chlorination of water designed to kill the carriers of diseases.

²⁸ See R. L. Meier, *Science and Economic Development*, New York, J. Wiley & Sons, 1956, p. 65.

II

THE HINDU SOCIAL SYSTEM

In collaboration with

LORE L. KAPP

WHAT IS meant by the Hindu social system? Is the social structure a separate entity and, if not, how is it related to culture? Actually both culture and social system are conceptual frameworks or tools of analysis designed to convey a generalized picture of institutionalized arrangements and the corresponding patterns of behaviour. Both are approximations of observed behaviour from which they are inferred. In this sense, they refer to the same observed phenomena. They differ inasmuch as they represent different levels of abstraction. While it is possible to distinguish the social system from the culture, the social system functions within the cultural milieu of which it is a part.

India's social system as a conceptual framework refers to three closely interrelated levels of group organization: caste, family and village. By focussing attention on these three institutions of the Hindu social system we shall not concern ourselves with a host of specific institutional arrangements despite the fact that they are of the greatest importance for the explanation of the low productivity of Indian agriculture: land tenure and tenancy, the role of the moneylender and the landlord and their lack of interest in modernization, the fragmentation of holdings, the absence of social overhead capital facilities and the quantitative and qualitative deficiencies of local and regional administration. Strictly speaking, these arrangements are, of course, part and parcel of India's social structure. However, since the economic consequences of these defects of the agrarian structure have been investigated in great detail,¹ and since the inclusion of the results of these studies would unduly extend our discussion, we will con-

¹ United Nations, *Land Reform*, New York, 1951; E. H. Jacoby, *Agrarian Unrest in Southeast Asia*, Bombay, Asia Publishing House, 1961; T. Balogh, "Agricultural and Economic Development", *Oxford Economic Papers*, Vol. 13, Feb. 1961, pp. 27-42; K. H. Parson, "Capital Formation and Use in Agricultural Development", *Indian Journal of Agricultural Economics*, XII, No. 4, Oct.-Dec., 1957, pp. 11-18.

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fine our analysis to the three basic social institutions listed above.

Two features deserve special emphasis before we launch upon a more detailed analysis: one is the fact that caste and family, and to a lesser extent the village, shape the pattern of group action to which we have referred in the preceding essay. It is caste and family which determine the traditional orientation, the aspirations and response patterns for the vast majority of the people of India. The study of the operation of these social structures is therefore of central importance for any analysis of the role of social institutions in relation to economic development.

Secondly, caste, family and village exhibit strong elements of hierarchy. For this reason it is not surprising to find that the awareness of hierarchy is all-pervasive in Hindu life and Hindu thought.

THE CASTE SYSTEM

The caste system bears even today the marks of its origin: the particularistic exclusiveness and segregation which the dominant and conquering ethnic groups enforced upon the native and tribal people, and their hybrid offspring on the Indian subcontinent. What are still today called the "Backward Classes" are numerically far from unimportant remnants of the unassimilated groups of people who remained more or less outside Hindu society and who are found not just in remote areas but all over India. We are aware that the origin of the caste system has been subject to various interpretations. Thus, it has been argued that caste is not a particularly "Aryan" institution inasmuch as other Aryan civilizations, for instance Iran, did not develop it; that caste antedated the coming of the Aryans to India; that, indeed, caste is more pronounced and deep-rooted in the South than in the North of India; and that a "priest caste" seems to have existed in all pre-Aryan civilizations in India. However, the facts that Iran has no caste system, that caste may be an institution of considerable antiquity and that it is more deep-rooted in the South of India than in the North are all fully compatible with the thesis that the caste system is the outcome of the "domination effect" characteristic of a relationship between conquering and conquered ethnic groups. Indeed, one would expect that the institution of caste is

weaker among relatively homogeneous ethnic groups and strongest among comparatively heterogeneous populations.

Actually there exist in India today "in each linguistic area, several hundred castes, each of which is a homogeneous group, with a common culture, with a common occupation or occupations, practicing endogamy and commensality."² These castes or sub-castes, as distinguished from the fictitious fourfold division of castes—Brahmins, Kshatriyas, Vaishyas and Shudras—can be classified into a few major groups: in addition to the earlier *racial* castes (such as the Jats, the Gyyars and the Meo in Rajasthan) there are *functional* castes (such as cultivators, traders and artisans); there are *sectarian* castes organized along religious lines as well as castes of persons who have changed their occupation or have migrated or are the descendants of recent racial mixtures.³ Even religious minorities like Christians and Jews in Cochin, as well as opponents to castes like Sikhs and Muslims, tend to organize themselves along caste lines.

The process of caste formation is a continuous one. Indeed, it is no exaggeration to say that as long as minorities are reluctant to organize themselves along caste lines, their cultural identity may be in jeopardy and they may run the danger of placing themselves outside Hindu society altogether. Anglo-Indians and many aboriginals are experiencing these difficulties and their full integration into Hindu society can be expected to take place only along caste lines. In short, caste seems to be the all-pervasive social form of organization for every group and every individual. There is reason to believe that caste consciousness is not weakening but, as we shall show, may actually be increasing under the impact of social reforms and universal suffrage.

Castes determine not only social status; they mould the behaviour patterns of the group and its members. They regulate communications with the members of other groups; they mediate the form and content of interpersonal relations and channel human affections. "Each caste is a complete society within a society, a kingdom within a kingdom. A caste has its own gods, its own temples, its council which regulates social behaviour, its hereditary

² M. N. Srinivas, "Village Studies and their Significance", *Eastern Anthropologist*, VIII, No. 3-4, March-August, 1955, p. 224.

³ G. B. Jathar and S. G. Beri, *Indian Economics*, 9th ed., Vol. I, London, Oxford University Press, 1949, p. 78-79. See also A. de Riencourt, *op. cit.*, pp. 95-96.

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occupations and status, its own customs about food, dress and marriage."⁴

Indeed, castes may be defined as exclusive social groupings practising endogamy and following their own customs regarding food and dress. In relation to each other they seem to be organized invariably into a system of dominance and subordination giving rise to and supported by feelings of superiority and inferiority. "... each caste considers itself higher than some and reluctantly admits itself to be lower than some others. Theoretically each caste has a definite place in the social ladder, but actually there are many rival castes claiming the same position."⁵ This hierarchical structure of the caste system becomes particularly evident on those occasions when the village acts as a group and is engaged in activities such as common celebrations, common worship or common mourning. "At such times, distances become of immense importance; whether it is the number of feet at which one stands, prays, sits, smokes, drinks, or eats from others. Feuds, indeed minor wars, have been started because distance between two subcastes was not observed in a feeding line. The same people who do not mind with whom they sit in a bus and with whom they eat in a restaurant in town, will make quite sure that the respect due to the status of their group is shown them in their own village."⁶

However, the hierarchical structure of the caste system in any linguistic area is not necessarily fixed once and for all. Various internal and external pressures may introduce tensions into the system and ultimately lead to changes. These pressures may be economic, political, demographic, ideological and educational in character. Thus what gives a particular caste its position of dominance is not necessarily its ritualistic adherence to certain rules and prohibitions (e.g. maintenance of purity, avoidance of pollution, acceptance of strict vegetarianism) but its economic power, numerical strength, political influence, and recently, the educational status of its members, i.e. castes which are economically dependent are likely to be low in status, and non-dominant. Groups of landless labourers or tenants are likely to be subordinated to the "high caste" landowners. The numerical majority of the former

⁴ I. Karve, *Kinship Organization in India*, Poona, Deccan College Monograph Series, No. 11, 1953, p. 8.

⁵ *Ibid.*, p. 6.

⁶ T. Zinkin, "Indian Apartheid", *Encounter*, Vol. XVII, August 1961, pp. 79-80.

may thus in fact be nullified by their economic dependence. Nevertheless, numerical strength is at least a potential element of relative power and status. "The numerical strength of a caste influences its relations with the other castes. The capacity to muster a number of able-bodied men for a fight and reputation for aggressiveness, are relevant factors. Considerations of power do prevail. The members of nondominant castes may be abused, beaten, grossly underpaid, or their women required to gratify the sexual desires of the powerful men in the dominant caste. The patrons from the dominant castes are 'vote banks' for the politicians."⁷ No doubt, castes change their relative positions in the caste hierarchy. Disagreements about the relative position occupied on the social ladder may even be said to be common. However, far from seriously undermining the hierarchical structure of the system or for that matter caste itself, they "reinforce the villager's concept that rank and its prerogatives are important and worthy of a struggle."⁸

No discussion of the caste system can be complete without an understanding of the position and role of the so-called backward classes in the Hindu social system. As a matter of fact, it is the existence of these groups and their disabilities which show most dramatically the psychological and social implications of a caste society. And yet, despite the fact that the backward classes make up about one third or 150 million of the population as of 1951, their actual status is relatively little known outside, and far from being fully appreciated even within India. This is true despite or perhaps because of the fact that they have been the object of a policy of special legislation. Without entering into a discussion of the origin and present classification of these backward classes⁹ we shall confine ourselves to a brief analysis of the main features

⁷ M. N. Srinivas, "The Dominant Caste in Rampura", *American Anthropologist*, Vol. 61, No. 1, February, 1959, p. 15.

⁸ D. G. Mandelbaum, "Concepts and Methods in the Study of Caste," *The Economic Weekly*, 10th Annual Number, January 1959, p. 147.

⁹ "About two-fifths of the Backward Classes belong to the Scheduled Castes, a little less than one fifth to the Scheduled Tribes, nearly two fifth to the Other Backward Classes and the remainder to the Denotified Tribes.... The Scheduled Castes, also known as Untouchables or Harijans, had a population of 55,327,021 in the 1951 Census. . . . The Scheduled Tribes, also called Adivasis and Girijans, numbered 22,511,854 in 1951. . . . 'Other Backward Classes' is the official name for those who are vaguely referred to as 'socially and educationally backward classes' in the Constitution . . . The Denotified Tribes. . . are the former Criminal Tribes." Lelah Dushkin, "Special Treatment Policy", *The Economic*

and the rationale of their status within the Hindu social system. The rationalization which justifies their inferior position is, of course, based upon traditional Hinduism according to which the status of different occupations depends upon their connection with tasks considered to be impure and polluting.

The ideas of ritualistic purity and the notion of pollution by touch and proximity which pervade the caste system determine the rules of behaviour toward the Untouchables and other "backward" classes. Necessary occupations such as, for instance, the removal of night soil in a country without modern sanitary facilities or the disposal of dead animals including the tanning of their hides, are performed by the lowest and most ignorant elements of Hindu society. Religious beliefs and ritualistic notions of purity and pollution have attached to these occupations a particular stigma which in the case of the Untouchables is inherited, as is the occupation itself. In fact, Hindu society has taken strong measures to "protect" itself against the Untouchables. Untouchability "is a stigma by caste, not by individual; from birth, not from deed performed; it lasts throughout life and cannot be ritually eliminated."¹⁰ "Protection" which takes the form of specific practices designed to prevent touch or distance pollution varies widely between regions, districts, villages, cities and between different untouchable castes often in the same village. These institutionalized prohibitions and enforced codes of behaviour restrict access to temples, delimit services to "clean Brahmins", preclude the use of public facilities such as wells, roads and schools and rule out the acceptance of drinking water from Untouchables.¹¹

A different but equally significant form of disability not necessarily related to untouchability but in practice often confined to members of the Scheduled Castes or tribal people is the system of forced labour which takes the form of debt bondage.¹²

Weekly, October 28, 1961, p. 1665. The following presentation draws heavily upon this unique study. See also by the same author, "Removal of Disabilities", *The Economic Weekly*, November 4, 1961, pp. 1695-1705.

¹⁰ Lelah Dushkin, *The Economic Weekly op. cit.*, October 28, 1961, p. 1666.

¹¹ *Ibid.*, p. 1666. We shall deal with the question of the effectiveness of the Untouchability (Offences) Act of 1955 in the concluding section.

¹² Under the system known as *sagri* in Rajasthan the debtor or any member of his family may have to render personal service to the creditor for the interest on the debt; these services like the debt may last indefinitely. That this practice is still in existence was revealed by a detailed report of cases of *sagri* in villages near Dungarpur and Udaipur, see *The Hindustan Times*, October 3, 1961.

In conclusion it may be said that the caste system seems to be India's unique contribution to the variety of social institutions which the human race has developed. Its uniqueness rests in the fact that it forms an integral part of the religious metaphysics of the Hindu doctrine of *Karma* which enjoins the individual caste member not only to accept his ascribed status and occupation but, in accordance with the *Gita*, holds that perfection is reached by devotion to one's own duties as prescribed by one's caste status. Thus, strictly speaking, to question one's status and to aim at change may be a violation of the moral law and always hazardous.¹³ Within the framework of the Hindu interpretation of the human situation and in the light of Hindu ethics it is conceived to be far better to perform imperfectly one's duties as prescribed by one's caste than to perform the *dharma* of another caste perfectly. Manu (IX, 335) actually holds out the hope that the performance of one's duty in accordance with one's inherited occupation or status leads to spiritual progress and the attainment of a higher caste in one's next incarnation. "A Shudra who is pure, the servant of his betters, gentle in his speech, and free from pride, always seeks a refuge with Brahmanas attains in his next life a higher caste."¹⁴ This close interpenetration of the sacred and the social, of duty and status, must be considered as the main reason for the extraordinary vitality of the caste system.

Of course, this is not to say that the caste system has always had religious sanction or that elements of caste cannot be found in Western societies. The emergence of caste in India is a social development which received its religious sanction at a later date. In this sense it is indeed possible to regard it as a sign of degeneration and of an increasing rigidity of the social structure. No doubt, there are elements of caste even in so-called open societies. The position of the Negro in the South of the United States has much in common with that of the Untouchables and the "backward" classes. Similarly, the racial ideology and legislation inspired by antisemitism in Hitler's Germany aimed at placing the Jews in a position similar to that of the Harijan. The point is not that modern

¹³ "Better is one's own law though imperfectly carried out than the law of another carried out perfectly. Better is death in (the fulfilment) of one's own law for to follow another's law is perilous." *The Bhagavadgita op. cit.*, pp. 146-147.

¹⁴ Quoted from S. V. Ketkar, *The History of Caste in India*, Ithaca, N.Y., Taylor and Carpenter, 1909, p. 115.

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societies are incapable of adapting the principles of purity and pollution to their own specific purposes of discrimination and oppression of minorities of allegedly different ethnic stock but that such discriminatory treatment clearly runs counter to and violates Western precepts of equality. Hinduism, on the other hand, if not in its classical origin, at least in its later and contemporary form tends to sanction and reinforce the principle of social immobility and discrimination according to colour, caste and ethnic origin.

KINSHIP AND FAMILY STRUCTURE

If we consider that caste is an endogamous social group it is not difficult to see that caste and family must be closely interlocked in the Hindu social system. In fact, caste may be regarded as an extended kinship organization.¹⁵ The Hindu family structure differs from the Western nuclear family consisting of man and wife and unmarried children, inasmuch as it tends to be a much larger group. For the majority of Hindus the family is a multi-generation joint kinship organization in which "not only parents and children, brothers and step-brothers live on the common property, but it may sometimes include ascendants, descendants, and collaterals up to many generations."¹⁶

It is often believed that the number of joint families in relation to nuclear families is declining especially under the impact of urbanization. However, such limited data as are available on this subject seem to refute this belief. Thus, it has been found that the joint family structure is not disintegrating and that there are almost as many joint families in urban areas as in rural areas.¹⁷ Available data place the number of joint families up to 60 per cent in some rural areas. However, these data may understate both the numerical importance and the actual significance of joint families. They count as nuclear those families which are so not by choice but due to the death of the older members; they also include tribal groups among which joint families may play a lesser role than

¹⁵ I. Karve, *op. cit.*, 1953.

¹⁶ J. Jolly, *Hindu Law and Custom*, Calcutta, Greater India Society, 1928, p. 168.

¹⁷ For a summary of recent surveys of family types in India see N. V. Sovani, "The Urban Social Situation in India", *Artha Vijnana*, Vol. III, No. 3, September 1961, pp. 206-207. Available data are not comparable due to differences in definitions used by different authors.

among caste Hindus. Furthermore, the actual influence of the extended family may be felt even by nuclear families insofar as important decisions may still be made by the older members of the larger family especially if financial dependency prevails.

As we have indicated, both the joint family and the caste with which it is interlocked tend to channel behaviour along lines that are predominantly group-oriented; i.e. the aspirations and goals which tend to be incorporated into the Hindu personality are those of the larger group in a much more direct and basic sense than is the case in an independent Western nuclear family. As soon as the traditional Hindu kinship organization is viewed in the context of Hindu religion and thought its religious functions become evident. In fact, the structure and the functioning of the Hindu family can be fully understood only in the light of Hindu religion and the socio-religious obligations and duties through which spiritual "progress" is attainable. Indeed, according to the doctrine of the four stages (*ashrama*), to marry and to secure the continuity of the family line is not merely a social but a religious desideratum. For it is only through the birth of a son that man is able to obtain *moksha*. According to Manu "a man conquers the world by the birth of a son; he enjoys eternity by that of a grandson; and the great-grandfathers enjoy eternal happiness by the birth of a grandson's son."¹⁸ If the birth of sons is regarded as a religious or spiritual necessity which enables the father to fulfil his duties towards the departed ancestors it is easier to understand why the Hindu family is in theory and fact a much larger group than that formed by parents and children. Indeed in theory the Hindu family is an association which seems to have no limit. As a matter of fact, traditionally "the Hindu home is the dwelling place not only of the living members of the family, but also of the *pitris*, the ancestors, under the care and blessings of *Agni*—the sacred Fire, the presiding deity of the home".¹⁹ Hence to remain without male offspring is a religious dilemma and to marry and to beget sons has the character of a religious duty. This quasi-sacred character of marriage and procreation is fully reflected in the traditional qualifications which are supposed to guide the selection of the marriage partners by the parents and the rites

¹⁸ Quoted from P. N. Prabhu, *Hindu Social Organization*, 3rd ed., Bombay, Popular Book Depot, 1958, p. 242.

¹⁹ *Ibid.*, p. 215.

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and ceremonies to be performed at the wedding.²⁰ This intimate connection between the sacred and the secular functions of the family manifests itself in a variety of ways. Thus all members are expected to perform their domestic rites and daily sacrifices before the same god and undergo the *samskaras*²¹ for sanctifying the body at the common fire. All members share in the common property and earning of the family in accordance with their needs as sanctioned by custom and tradition. Similarly, the house and property are regarded as the actual and symbolic home of the family in the widest sense including its past and future members. Moreover, the practical affairs of the world and the family are to be conducted in the spirit of non-attachment and in accordance with the social and religious obligations prescribed by the status and caste of the family. Within the scope of the present essay it is impossible to develop these interrelationships between the social and the sacred in greater detail. Every aspect of human life and family relationships seems to have a spiritual significance and meaning. Sexual intercourse, the birth of a son, ritual cleanliness, the consumption of certain foods, eating habits, the relation of women to their husbands, of sons to their fathers (and mothers, sisters and brothers), the behaviour of the daughter-in-law, the position of the widow, to name only some of the more important factors, are not without religious significance and implications. Here again we find the intimate connection between the sacred and the social. Indeed, strictly speaking, it would appear that traditional Hinduism leaves little if any room for a secular sphere in the sense of things that are Caesar's.

It is perhaps unnecessary to add that the Hindu joint family is itself hierarchically organized. Interpersonal relations between the family tend to be marked by a system of dependency and deference which are characteristic of all relationships in Hindu society. We shall come back to this point in our discussion of the effects of the joint family on the Hindu personality structure.

THE VILLAGE

The Indian village as a social structure can be understood only if it is seen in the context of its history. Due to the absence, until

²⁰ *Ibid.*, pp. 163-179.

²¹ The *samskaras* rites are particularly revealing because they cover the whole lifespan of the individual (literally from the consummation of the marriage) to the funeral rites. See *Ibid.*, pp. 218-24.

recently, of a unified state the Indian village was for centuries a more or less independent administrative unit which maintained as well as it could its economic independence. As a matter of fact, India as a whole has never enjoyed the benefits nor suffered the consequences of centralization either on the political, administrative or the religious level. The absence of an organized church and a centralized machinery of administration has left a deep impact on the Indian village. While in Europe each of the emerging nation-states promulgated codes and modified existing legislation which ultimately led to the emergence of a uniform standard of law and custom, India never developed such norms. Hence, many of the economic and political functions of State and Government had to be performed by the village headman or *panchayat*, the caste, or the joint family. In many instances, these functions were not performed at all. "The lack of rigid unitary control of the State, the unwillingness of the rulers to enforce a uniform standard of law and custom, their readiness to recognize the varying customs of different groups as valid, and their usual practice of allowing things somehow to adjust themselves"²² was, of course, in harmony with a fundamental neutrality and tolerant indifference to social arrangements in general. Disputes and conflicts were settled in accordance with the established traditions of a dominating caste. If new patterns of behaviour emerged they were simply added to older ones. In this sense there was continuous social change of a sort, but whatever change occurred was "agglomerative" rather than selective. Indeed the absence of a central administration and the non-selective attitude toward social change led to the emergence of a bewildering number of castes, subcastes and kinship groups.²³

²² G. S. Ghurye, *Caste and Class in India*, 3rd ed., Bombay, Popular Book Depot, 1957, p. 182.

²³ "In this society the extended kinship group, the family, the caste and the village (the local unit) remained far more important than the state, while an organized church never emerged. Each group lived near others, keeping to its own traditions while cooperating with others in the matter of production of consumable goods. The society which developed was of an agglomerative character. This character is developed to its fullest extent in the organization of castes. Simple agglomeration is a process which needs the least modification of the agglomerating units. The new element which is being incorporated is simply joined and it can remain in an unspecified position for a considerably long time." I. Karve "Some Aspects of the Organisation of the Caste-Society of the Hindus", in N. V. Sovani and V. M. Dandekar, eds., *Changing India*, Bombay, Asia Publishing House, 1961, p. 150.

While this growth by agglomeration may be said to have maintained Hindu society, it has also contributed to the development of a highly segmented social structure and to the rise of hostile factions with serious divisive tendencies.

More specifically the village in India is an agglomeration of joint families, extended kinship groups, castes and subcastes. The 'sovereignty' of the castes and their separate jurisdiction over violations of caste customs and traditions has had the effect of seriously narrowing the scope of village government and administration. Actually village administration has concentrated on the keeping of records, primarily for the assessment and collection of land revenues. Beyond this, village leaders have had certain limited police and judicial powers and on certain occasions were called upon to mobilize the rural labour force for such collective purposes as road building or the construction of irrigation and other works requiring organization of men and materials on a large scale. Apart from this the village was relatively free from interference from above and left to its own devices. Village and caste *panchayats* settled the day-to-day affairs in accordance with custom and tradition.

The village leadership was linked to a regional administrative machinery by appointed or hereditary headmen who owned a substantial area of rent-free land and received a share of the collected land taxes. Both Moghul rule and British colonial administration made use of this pattern of local administration which in many respects has persisted in Indian villages up to the present.

The fact that the headman and other village leaders were members of an influential caste and are also powerful either as landlords, traders or money lenders reinforced the hierarchical and authoritarian character of local administration.²⁴ Moreover, there was little if any interest in maintaining minimum standards of public works or village-wide welfare functions. Investments in social overhead capital would have required the raising of additional taxes which would, in turn, affect above all the wealthier members of the village.

The hierarchical and authoritarian nature of interpersonal relationships in the Indian village is not significantly mitigated

²⁴ A. C. Mayer, *Caste and Kinship in Central India*, London, Routledge and Kegan Paul, 1960, esp. ch. VI, pp. 92-131.

by the relative freedom from interference in local government from above. The caste, the kinship group, the complete economic dependency of the majority of the landless labourers and Untouchables on the economically and socially privileged do not seem to make possible the development of any but an authoritarian pattern of relationships. Under these circumstances it is not surprising that widespread subservience of the weak to the economically strong and politically influential elements has continued into the present.²⁵

Can such a highly diversified social structure as the Indian village, torn as it is by rivalries, suspicion, discriminatory practices, and friction, achieve some form of stability and integration? The answer must be sought in the fact that the Hindu social system as a whole creates the personality type and value orientations which make it possible for the individual and the group to arrive at some form of adjustment. We cannot go here into a detailed discussion of this process in which enculturation and imitation play a major role. As long as the underlying norms and value orientations are not challenged as a result of basic economic changes it is indeed true that "a lowly servant willingly gives up all for the sake of the master, or a caste bows down to the fact of being regarded [and treated] as untouchable."²⁶ It is this kind of adjustment which integrates society and maintains its stability up to a point.

²⁵ For a classical description of the pervasiveness of the power of leadership in a village see Wm. Wiser and C. V. Wiser, *Behind Mud Walls*, New York, Agricultural Missions Inc., 1951, pp. 18-19. For additional evidence on the hierarchical and factional structure of the Indian village see Baljit Singh, *Next Step in Village India*, Bombay, Asia Publishing House, 1961. See also S. C. Dube, *Indian Village*, Ithaca, Cornell University Press, 1955; see especially pp. 45-53, and 212-14 for a detailed account of the position and privileges of the headman in a village in the South of India in 1952. Recent administrative reforms have aimed at devolution of powers to locally elected *panchayat* councils in an effort to enlist the participation of larger numbers of the rural population. For additional village studies see McKim Marriott, (ed.) *Village India: Studies in the Little Community*, Chicago, University of Chicago Press, 1955; *Indian Villages*, Collection of Articles from *The Economic Weekly*, Calcutta, West Bengal Government Press, 1955; O. Lewis, *Village Life in Northern India*, Urbana, University of Illinois Press, 1958, S. C. Dube, *India's Changing Villages*, London, Routledge and Kegan Paul, 1958. For specific studies of the problem of leadership, see R. L. Park and I. Tinker, eds. *Leadership and Political Institutions in India*, Princeton, Princeton University Press, 1959.

²⁶ I. Karve, *op. cit.*, 1961, p. 153.

IMPACT OF RECENT SOCIAL CHANGES

The foregoing analysis of Hindu culture and Hindu social organization raises the question of the nature and character of social change in recent decades and particularly since Independence. It cannot be denied that social change has taken place. But how deep does this social change penetrate? What is its impact upon Hindu culture and Hindu social organization? No doubt the transition from a barter to a monetary economy has affected the occupations of many villagers. Railroad, bus and bicycle have increased mobility; landless labourers in the immediate vicinity of urban centres have become transient workers in nearby factories. Goldsmiths have opened teashops and blacksmiths have become repairmen for bicycles. Educational facilities have been expanded and even the children of Untouchables may attend elementary and other schools and all castes may ride in the same bus. There have also been changes in dress and food habits. Attitudes towards certain aspects of medical care have been modified and modern medicines are used increasingly although frequently alongside the traditional ways of combating disease and epidemics. Electricity has been brought to some villages and so has water for drinking and irrigation.

In addition legislation aiming at various reforms of the Hindu social system has been enacted. The Hindu Marriage Act of 1955 aimed at the "restitution" of conjugal rights, judicial separation and divorce. The Hindu Code Bill has given the right of inheritance to daughters. The Untouchability (Offences) Act of 1955 made certain discriminatory practices such as the restriction of the access to temples punishable offenses. Rajasthan has outlawed the system of forced labour and debt bondage. Special treatment and concessions are granted to backward classes in such fields as education, scholarships, government employment, welfare programmes, land occupancy and tenancy. State legislation aiming at stabilization of tenancy contracts, maximum rents and the establishment of land ceilings have been passed. The Zamindari system has been abolished; laws raising the minimum age for marriage and regulating the taking and giving of dowries as a consideration for marriage have been passed. Community Development Projects have introduced welfare schemes including some degree of adult education in many villages. Urbanization has

proceeded and above all universal suffrage and the political party system have been maintained.

All of these changes have been noted and their impact is currently being analyzed in professional journals. This analysis has brought to light a wealth of data which, far from settling the issue of the significance of recent social change, raises fundamental questions which concern us here. For example, to what extent have these socio-economic changes left a decisive impact on Hindu culture and Hindu society? Have they led to a greater secularization of life? Have they given rise to a greater rationality in behaviour, higher standards of aspirations, greater discipline and a more ready acceptance of innovations? Have the legislative reforms been implemented and become part of the social fabric? For example, what are the real effects of the increased mobility resulting from modern means of transportation and communication on traditional modes of living and thinking? Has this increased mobility affected the character of human aspirations and the nature of intergroup relations? How important is the fact that food and dress patterns have changed? Has the change in food habits affected the taboo on interdining and the slaughter of cows? How widespread is the acceptance of modern medicine? What are the actual effects of the various laws and social reforms relating to marriage, divorce, inheritance, untouchability, dowry and land reform?

There is no doubt that social legislation and reform can create a powerful climate of opinion, particularly in some urban circles. If actually enforced and given enough time these reforms may indeed lead to changes of attitudes and behaviour patterns. It cannot be denied that attitudes relating to the caste system have undergone change; caste prohibitions of one sort or another may be breaking down and lower castes may be successful in either raising their relative status or even assuming dominance in one region or another. Questionnaires in urban areas may indicate that a majority opposes caste discrimination, that many are willing to take food with persons of a lower caste and have no objection to inter-caste marriages. No doubt such data are significant verbal expressions of changing attitudes. But do they support the view that the caste system is weakening or is on the way out? Obviously not. In order to answer this question it would be necessary to ascertain the percentage of people who do *not* think in terms of

caste, who do *not* discriminate against "lower" castes, or try to imitate higher castes, who do extend hospitality to members of a lower caste or permit their children to marry outside of their own caste. People may verbally oppose particular traditions when asked for their opinion but their actual behaviour may still be guided by patterns that are prescribed and sanctioned by religious tradition. Indeed as far as the actual behaviour of the overwhelming majority of people is concerned the caste system with its traditional prescriptions and prohibitions seems to govern aspirations, goals and action as well as ethical norms. This conclusion cannot be refuted by the occurrence of occasional inter-caste marriages. Not only are inter-caste marriages rare but the attitude towards them seems to be one of tolerant indifference rather than imitation: "Those others do it. Let them do it. We do not do it."²⁷ Indeed occasional violations do not weaken the caste system to any extent.

The joint family seems to be more vulnerable to change. But while the structure of the joint family may be undergoing slow and uneven changes in the urban environment it continues to perform important positive functions even in the city and, as we shall point out, may adapt itself to new economic conditions. For this reason we believe that the joint family is not disappearing and may in fact show a greater vitality and longevity than many social scientists are willing to grant.

The same conclusions hold true with regard to the taboos against meat eating and the slaughtering of cows. There is no evidence to support the belief that this taboo is weakening in any way. On the contrary the state and municipal statutes passed in accordance with Section 48 of the Constitution which prohibit the slaughter of cows and calves seem to belong to those laws which have the full support of the majority of the population and are therefore effectively enforced. Few politicians running for elective office would dare to come out openly in favour of the slaughter of cows and calves. These statutes and their effective enforcement may actually have the effect of strengthening the traditional rejection of cow slaughter.

It is important to emphasize that no definite conclusions can be drawn from general impressions, isolated studies, or relatively rare violations of this or that tradition or pattern of behaviour. Only

²⁷ I. P. Desai, "Caste and Family", *The Economic Weekly*, February 27, 1954, Vol. VI, No. 9, p. 253.

the careful collection and measurement of evidence on attitudes and actual behaviour patterns can be accepted as the basis of significant conclusions. And even this evidence will require in each instance subtle interpretation within the context of Hindu culture. Many detailed surveys and careful evaluations of evidence support the conclusion that the impact of socio-economic reforms has been disappointing or at least much less far-reaching than is generally assumed. Studies of the effectiveness of the Untouchability Act indicate that the Act has remained largely a dead letter. "Social and economic boycott is still imposed in the village, cases drag on interminably, nobody takes much interest in them, witnesses seldom turn up and are unwilling to depose and the Harijans can rarely last as long as their opponents."²⁸ Indeed in a caste society it is not only plausible but likely that even the attempt to remove some of the worst disabilities either by making certain practices punishable acts or by special treatment of the backward classes may actually sharpen caste consciousness. Certainly special treatment in housing that takes the form of hostels or separate or mixed housing accommodations for Harijans, even at concessional rates, increases the general consciousness of caste. As a matter of fact, these well-intentioned policies have led to some paradoxical results as for instance the successful campaign of certain "forward" castes to rejoin the backward list.²⁹ An actual increase of caste consciousness tends to emerge also in the political sphere where candidates may be chosen on the basis of caste and their appeal to particular castes, where voting may take place along caste lines and where the elected officials are expected to favour the caste they come from. Under these circumstances even universal suffrage and democracy may have the effect of actually strengthening rather than weakening the caste system.

In the important field of land reform which we excluded from the current analysis the available evidence supports the conclusion that many of these laws have not achieved their objectives partly because of administrative defects and partly because of the fact that strong and influential groups which opposed reform have been able to evade and subvert it.³⁰

²⁸ Lelah Dushkin, *The Economic Weekly*, Nov. 4, 1961, *op. cit.*, pp. 1695-96.

²⁹ M. N. Srinivas, "Origins of Backward Classes Movement in India", *The Statesman*, Oct. 10, 1961.

³⁰ See V. M. Dandekar and G. J. Khudanpur, *Working of Bombay Tenancy Act*, 1948 Poona, Gokhale Institute of Politics and Economics, 1957; See also

The evaluation studies of community development projects also show that basic changes in attitudes and behaviour are extremely slow. This applies to attitudes towards new agricultural techniques, views and behaviour related to public health, environmental sanitation, knowledge about contagious diseases, belief in miracle cures, lack of participation and absence of sustained effort in maintaining public works and municipal services.³¹

Finally, it may be worthwhile to raise the question of the effects of urbanization in India. What kind of cities are the urban settlements of India? Do they play the dynamic role which has been attributed to urbanization in the West? Do they promote the changes in attitudes, outlook, social values and behaviour patterns which have led social historians and sociologists to the conclusion that cities are a strategic factor in the process of modernization? In the light of our analysis it would appear doubtful that the Indian city can be expected to play the dominant and dynamic role which cities in the West have played. Indeed, it is conceivable that unplanned urbanization which in India as elsewhere is merely another case of "growth by agglomeration" may not necessarily give rise to those basic changes in social institutions, interpersonal relations, and human behaviour which have accompanied the rise of cities in the West. In fact, it has been suggested that the cities of Asia and South East Asia may retain many of the characteristics of an enlarged village. "Despite their relatively high densities, life has not necessarily become largely secularized, great differentiation of functions has not taken place and the way of life has not changed

A. M. Khusst, *Economic and Social Effects of Jagirdari Land Reforms in Hyderabad*, Hyderabad, Department of Publications and University Press, Osmania University, 1958.

³¹ For instance, latrines have not been accepted. Fear of pollution and the problem of cleaning the latrines seem to play a major role; also some castes may want separate latrines. As a result, manure and sewage water are reported to pile up near houses; defecation near reservoirs and human habitations are said to be prevalent among all castes and all income groups regardless of education. N. V. Sovani, *Survey of Reactions to Health, Education and Cooperation and other items of the Development Program*, Typed Manuscript., Poona, Gokhale Institute of Politics and Economics, 1954-55, pp. 116-17. See also *Fourth Evaluation Report on Working of Community Projects and N.E.S. Blocks*, Vol. I, April, 1957, p. 62, Programme Evaluation Organisation, Planning Commission, New Delhi 1957; *Fifth Evaluation Report in Working of Community Development and N.E.S. Blocks*, Summary and Conclusions, New Delhi, Programme Evaluation Organization, Planning Commission, 1958, pp. 6-7ff.

markedly for many of the indigenous population groups. Finally ... little has occurred in the way of increased sophistication, rationality in behaviour, cosmopolitanism of outlook or innovation and social change."³² These cities may actually have the effect of retarding the development of other cities which could be established in accordance with scientific principles of town planning, and act as a drain on the general development effort by absorbing substantial capital resources for slum clearance, sanitation and other welfare purposes.

More specifically, the vitality of Hindu culture, Hindu value orientations and world outlook may be strong enough to channel the urbanization process into a pattern different from that of the West.³³ In fact, India may follow in this respect the pattern established by many "pre-industrial" cities in the Middle East, Muslim Central Asia and in parts of South America where large urban centres have long existed without necessarily inducing fundamental socio-cultural changes.³⁴ This is of course not to deny that in relation to the immediate rural hinterland such large Indian cities as Bombay and Calcutta and such administrative centres as New Delhi do exert important spread and polarization effects.³⁵

To conclude: the pattern of social development in India is not likely to follow the course of social change in Europe during and since the Industrial Revolution. While the Hindu social system is under strong pressure and while this pressure necessarily leads to adjustments and perhaps even to a weakening of one or the other institution it does not destroy them. On the contrary, these institutions may readjust themselves to the new situation; they may assume new functions and actually emerge strengthened without

³² UNESCO, *Urbanization in Asia and the Far East* (P.M. Hauser, ed.), Calcutta, Research Center on the Social Implications of Industrialization in Southern Asia, 1957, pp. 87-88.

³³ Indeed, "it is conceivable that the difference between Asian and Western outlook may produce somewhat different types of industrialization and urbanization, or inter-personal and social relations arising therefrom. It is also conceivable that much of what has been written on this subject is a product of premature generalization based on limited observations of Western experience." *Ibid.*, pp. 92-93.

³⁴ Kingsley David, "Colonial Expansion and Urban Diffusion", *International Journal of Comparative Sociology*, Vol. I, No. 1, March 1960.

³⁵ B. F. Hoselitz, "Urbanization and Economic Growth in Asia", *Economic Development and Cultural Change*, Vol. VI, No. 1, Oct. 1957, pp. 42-54 and N. V. Sovani, *op. cit.*, 1961, pp. 221-22.

undergoing major modifications as far as their basic ideological justification and role in society are concerned. Thus while social institutions do change and while individuals and groups are making adjustments to changing conditions, traditional patterns of thought and value may be strong enough to maintain their hold on Hindu society and the Hindu mind. In fact what is perhaps still imperfectly understood is the possibility that value and thought patterns may remain entangled in the web of old ideas even though there is some degree of technical change.³⁶ No one will deny that factories are being established, that "urbanization" has continued, that schools are being opened, and that various welfare and village uplift schemes are being introduced. Above all, universal suffrage has been maintained so far, even though there is a tendency at least at the local and regional level to identify democratic decision-making with unanimity rule rather than decision-making by simple majority. The question remains whether all of these social changes represent the critical minimum effort which is required in order to counteract and overcome those self-reinforcing trends of circular causation which have tended to move India in the same direction in which the country has always moved. Have the opportunities of political independence been utilized and translated into potentialities for the great masses of India's population? Have their capacities for work and rational knowledge been given a freer range than before?

To anticipate some of our conclusions, which we shall endeavour to substantiate in the following essay we may say that so far India's development efforts have met with only limited success mainly because ancient traditions still pervade virtually every phase of Hindu social organisation. Whether this limited success will be maintained or increased or whether it will be submerged by the weight of ancient traditions remains an open question. The answer to this question depends upon whether it will be possible to transform Hinduism into a world outlook that strengthens rather than weakens those aspirations and behaviour patterns without which sustained economic growth is impossible.

³⁶ "We may be very keen on putting up a plant or a factory and yet we ourselves are entangled in the webs of social backwardness." Prime Minister Nehru inaugurating the Indian Parliamentary and Scientific Committee, *The Hindustan Times*, August 28, 1961.

III

THE RETARDATION OF ECONOMIC DEVELOPMENT

In collaboration with

LORE L. KAPP

THE GENERAL purpose throughout the preceding analysis has been to appraise the existing social and economic institutions of India in relation to their role in the nation's economic development. We must now set forth in greater detail the impact of Hindu culture and Hindu social organization on economic growth and development. We shall try to answer this broad question by proceeding in an order of increasing concreteness from a discussion of the effects of Hindu metaphysics to an analysis of the impact of the major social institutions on economic change. Essentially, we shall try to appraise existing institutional arrangements in the light of the declared goals of increasing production and productivity of the Indian Five Year Plans. Needless to say that we are not here concerned with the question of the superiority or relative value and truth of any particular belief systems and social arrangements.

I. CYCLICAL TIME AND COSMIC CAUSATION

The notions of cyclical time and cosmic causation tend to relate man to a cosmology of such vast dimensions in time and space that they can only increase the feeling of human helplessness in the face of nature by reducing man's confidence in his own powers. Furthermore, circular time and cosmic causation give causality a fatalistic tinge and open the way to astrological speculations of all kinds. By spreading cause and effect over durations of time which exceed the lifespan of the individual—indeed by spreading causation over many human existences—the relation and the continuity between cause and effect tend to become not only vague but may ultimately be lost altogether. The causal relationship certainly assumes and retains a supernatural and mystical character not subject to rational comprehension and human control. Under these circumstances acceptance and obedience become the only

meaningful and appropriate attitude toward life. *Karma* and the iron law of retribution in effect deny that history, social reform and economic development are essentially matters of our own choice and depend upon human will and social action.

Indeed, this commitment to the concept of cosmic causation may explain the role of astrology in the daily life of contemporary India. The continued strength of the belief in the influence of the constellations of the stars at birth can be accounted for only in terms of a basic acceptance of cosmic causation and circular time.¹ Such commitments will lead either to the use of magic or to resignation and acceptance of the *status quo*, or whatever may befall the individual.

Moreover, when the present is viewed as causally related, in a cosmological sense, to the past and the future the actual condition of human existence loses much of its significance. It becomes transitory and illusory or at least relatively if not absolutely unimportant as compared to the postulated supreme reality. As a result, not only life and death but all forms of human suffering as well as social institutions in general assume a transitory and in this sense secondary character. Indeed, all things that happen on this transitory stage, all social and economic change, are matters of the moment and partake of the generally transitory character of the world. By providing a ready-made explanation and justification for the unequal distribution of fortunes in a society based upon hereditary status, traditional Hinduism may be said to weaken the impulse to ameliorate social conditions. It induces its adherents to endure what after all is considered to be only transitory. In short, cyclical time and cosmic causation coincide with and support the ethics of endurance, contentment, submission and withdrawal. In the last analysis this is only another way of saying that the core of Hindu thought makes it less urgent and less meaningful than a Western world outlook to improve the conditions of social and economic existence. On the contrary, in the light of Hindu thought acceptance of an imperfect world is likely to be more attractive than any desire to master and improve it. On the whole

¹ The powerful role of astrology and even palmistry in the daily life of contemporary India needs no documentation for anybody who has lived in the country for any length of time. Detailed studies of the dependency of decision-making on the auspicious day and hour could throw light on the strength of this belief in cosmological causation. See G. M. Carstairs, *The Twice-Born*, London, The Hogarth Press, 1957, pp. 51-52.

"Eastern civilizations are interested not so much in improving the actual conditions as in making the best of this imperfect world, in developing the qualities of cheerfulness and contentment, patience and endurance. They are not happy in the prospect of combat. To desire little, to quench the eternal fires, has been their aim."²

In fact, by placing a premium on acceptance of one's *Dharma*, on sacrifice and contemplation, and by inducing its devotees to view the course of events within a scheme of cosmological causation Hinduism tends to lower the level of human aspirations. It leaves man in a more helpless position than he would be if his world outlook and his social institutions were such as to encourage an attitude more in harmony with the scientific temper and the use of existing scientific and technological knowledge.

It will be, and indeed it has been, argued that in Hinduism the temporal and the spiritual (cosmological) concerns are not as interrelated as is here assumed and that what really destroys man's confidence is nature's relentless enmity to man in the tropics.³ It may be true that while the Hindu is in the world he is also of the world, but it is hardly plausible that the belief in rebirth, *Karma* and cyclical time and cosmic causation do not pervade and influence the temporal sphere including man's attitudes toward the amelioration of the actual condition of human and social life. Cyclical time and cosmological causation belong to those basic categories of Hinduism which stand in the way of the emergence of one basic prerequisite of economic development, namely, the conviction that man does make his own history and that, while the conditions under which he makes history are given, social and economic progress are not a matter of blind destiny but depend upon human choices and social action.

II. DESIRELESS ACTION AND THE LEVEL OF ASPIRATION

We have indicated that the moral ideal of the *Gita* is a logical conclusion drawn from the notion of circular time and cosmic causation. The moral imperative that "to action alone hast thou

² S. Radhakrishnan, *Eastern Religions and Western Thought*, London, Oxford University Press, 1939, p. 257.

N. C. Chaudhuri, "On Kipling's India", *Encounter*, April 1957, Vol. 43, p. 51.

a right and never at all to its fruits; let not the fruits of action be thy motive" must have the most far-reaching consequences on the level of aspiration and motivation. When the *Gita* insists that man should perform the work that has to be done without attachment to the fruits of action it supports, as we have tried to show earlier, the unresolved dualism which overshadows every economic activity and which tends to relegate efforts of social and economic reforms to a secondary and subordinate role in the Hindu scheme of things. What are some of the further consequences of this moral doctrine?

If perfection can be reached by obedience to *Dharma*, i.e. by fulfilling one's ascribed and inherited duties, the level of aspiration and motivation, however high or low, tends to be confined to the field of one's prescribed traditional activities. That is to say, the desire for change, mobility and improvement must be seriously curbed. Furthermore, it is at least an open question whether the stress on non-attachment to the fruits of one's action does not deprive man of the necessary motivation and involvement needed to act purposively and productively either in the economic or other spheres. For such a doctrine may not only promote lack of interest in the formulation of proper plans of action but may ultimately lead to indifference to the results of one's action altogether. Hence action may well become half-hearted and abortive. Indeed, action either without an adequate plan or without continuous concern for its outcome may remain altogether ineffective. We are aware of the fact that the doctrine of disinterested and selfless action calls for the full application of one's skill and workmanship. However, while this may well be part of the moral imperative the emphasis on skill and workmanship is seriously weakened by the injunction against attachment to the results of action in this transitory world of appearances. Indeed, it is doubtful whether action in a world believed to be transitory can ever be as strongly motivated as action in a world in which man finds the meaning of existence in purposeful work. In other words, in a transitory world of appearances desireless action without attachment to its fruits runs the risk of degenerating into ritualistic performances of one's duties. Such performances born of renunciation and non-attachment will not generate the strong aspirations and motivations required for the hard and systematic work carried out with precision and punctuality, without which there can be no increased productivity and efficiency.

Another question is whether the doctrine of non-attachment and work done for sacrifice can perhaps be reinterpreted in such a fashion as to serve as an ethic of development under conditions of economic planning. Gandhi's reinterpretation of the ideal of disinterested action into any act of service including bodily labour (sacrifice, austerity)⁴ and the channelling of Yoga in Japan into a discipline of self-training for greater personal efficiency are significant in this connection.⁵ A reinterpretation of the traditional ideal of desireless action and renunciation designed to make it support an ethic of frugality and action for a common purpose, could indeed be important for the development effort by providing the incentive and ethical justification for hard work and greater saving and abstinence from ostentatious (unproductive) consumption. It is significant that despite the teaching of Gandhi no successful effort seems to have been made by India's political and intellectual leadership to reinterpret the doctrine of action without desire for the fruits of one's labour so as to support an ethic of social action and of austerity by the wealthy in the interest of greater savings and a higher rate of capital formation. This, it must be said, would be in harmony with Nehru's dictum to combine the best of both the old and the new.⁶

However, even if this were done it is still likely that renunciation and non-attachment within the context of *Karma* would support at best only limited or static levels of aspiration and achievement as compared with the inner drive which harnesses the energies of

⁴ M. Singer, "Cultural Values in India's Economic Development", *Annals of The American Academy of Political and Social Science*, Vol. 305, May 1956, pp. 81-91 and M. Singer, in "India's Cultural Values and Economic Development", *Economic Development and Cultural Change*, Oct. 1958, Vol. 7, pp. 10-12.

⁵ "The Japanese... wipe the slate clean of the assumptions on which Yoga practices are based in India. Japan, with a vital love of finitude which reminds one of the ancient Greeks, understands the technical practices of Yoga as being a self-training in perfection, a means whereby a man may obtain that 'expertness' in which there is not the thickness of a hair between a man and his deed. It is a training in efficiency. It is a training in self-reliance. Its rewards are here and now, for it enables a man to meet any situation with exactly the right expenditure of effort, neither too much nor too little and it gives him control of his otherwise wayward mind so that neither physical danger from outside nor passion from within can dislodge him." R. Benedict, *The Chrysanthemum and the Sword*, Boston, Houghton Mifflin, Company, 1946, p. 241.

⁶ "We cannot discard the past. Nor can we live in it, surrounded by rituals. We must combine the best of both the orders." Nehru's statement before the Inter-University Youth Festival, *The Hindustan Times*, October 26, 1961.

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man and makes him accept the discipline, orderliness and punctuality required for the highly differentiated tasks in modern industrial society. Thus, the cultivator who fails to take the water from the new irrigation canal because it may rain or who delays the building of field channels, the villagers who despite many droughts have not bothered to sink a well, or the peasant who will not make use of improved techniques because he is convinced that increases in yields are not due to improved seeds and fertilizer but to fate and *Karma*, may fail to act because of limited static aspirations which have their root in traditional beliefs and value systems.

III. CASTE, SOCIAL SEGMENTATION AND THE "FACTION SOCIETY"

The impact of the caste system on economic development can hardly be overestimated. Indeed, it goes far beyond what is usually acknowledged by economists and other social scientists. It has long been realized that caste affects the supply of labour and interferes with the adjustment of supply and demand on the labour market. In fact,

"... caste and joint family are important social institutions affecting the available supply of family labour. Among the advanced castes (so-called upper castes) there is, at least in Bihar, a considerable restriction on and prejudice against field work on agricultural operations like ploughing. Except for a few operations on which the members of these castes may do manual labour, they usually engage mostly in supervision of hired labour, often staying in the field all through the day."⁷

Changes in occupation although not impossible are rendered difficult by the fact that they may endanger one's status and may even lead to outright degradation and ostracism. Caste rules work against the acceptance of occupations normally followed by lower castes and Untouchables; in farming areas they have often held up and actually prevented the introduction of improvements of techniques such as the use of certain types of manure (bones, fish or nightsoil) and the maintenance of compost piles. In fact, by organizing society into closed economically non-competitive

⁷ J. P. Bhattacharjee, "Underemployment among Indian Farmers", in *Artha Vijnana*, Vol. 3, No. 3, September 1961, p. 266. See also K. Nair, *Blossoms in the Dust*, London, Duckworth and Co., 1961, pp. 91, 150.

groups, caste frustrates the creative powers and lowers the aspirations of large numbers of people, thereby causing a serious waste of individual capacities and labour resources. Caste puts a premium on traditional occupations by preventing the development of personal initiative; it works against the emergence of a relationship between individual aptitude, performance and earnings.⁸ Caste may even be said to restrict and determine consumption standards which are open to each individual in accordance with various caste rules. Not only are a man's social relations prescribed by caste, but what he is permitted to eat and drink and how to dress are objects of caste rules. Caste may thus be said to achieve what Western advertising aims at: it differentiates demand schedules and makes them less elastic.

More recently, the recruitment policy pursued within the private sector of the economy is said to follow caste lines especially as far as the higher and middle administrative positions are concerned. Thus, personnel belonging to the same caste or region as the founder of the concern may be "imported" from places hundreds of miles away from the seat of the company. Employment policies may thus degenerate into a form of caste or kinship charity which is liable to cause serious undercurrents of resentment among those aspirants who do not belong to the "right" caste,—quite apart from the fact that positions are not filled by the most competent persons available.⁹ For all these reasons, caste, much more than its Western counterpart—racial discrimination and segregation—has always been an important obstacle to socio-economic change and as such has played not only a major part in the economic stagnation of pre-independence India but today is still a major impediment to economic development.

However, the impact of the caste system on economic development goes far beyond these more or less generally recognized effects. In order to understand its full impact it is necessary to probe into the effect of caste on intergroup relations and the resulting segmentation of village life. Let us recall in this context that the village is essentially an agglomeration of castes, subcastes and

⁸ G. B. Jathar and S. G. Beri, *Indian Economics*, London, Oxford University Press, 1949, Vol. I, p. 83.

⁹ For a general discussion of this subject see R. de Nitish, "Business Organisation and National Integration," *The Economic Weekly*, XIII, No. 42, October 21, 1961, pp. 1639-42.

joint families and that joint families and "sovereign" castes live in a ranked order which determines the patterns of behaviour, i.e. what members of the different castes can and cannot do together is dependent upon caste rules and prohibitions.

The effect of these rules on the nature of intergroup relations may be illustrated by the results of a survey of intergroup relations in three villages in Maharashtra.

According to this survey not a single marriage had occurred outside caste; even Untouchables were not willing to exchange brides with another untouchable caste (of lower status); hospitality (invitation to a meal, going to others for a meal; visiting for a few days) were confined in nearly 90 per cent of the cases to kinship groups with the remaining 10 per cent within the caste group; friendships outside caste groups were not only rare but were generally accompanied by much shame and feelings of guilt; gift giving (except in business relations) was confined almost exclusively to the kinship group; while giving and receiving of food and clothing to or from people of a caste other than one's own was not uncommon, not a single case of sheltering or nursing an ill person of a caste other than one's own was recorded. And while major emergencies, like the burning of a barn or shed used for storing crops call for help by all regardless of caste, minor emergencies call for help only from the members of the victim's caste.¹⁰

Even more significant for an understanding of the role of caste on social isolation in rural India is the fact that ideas of purity and pollution also are responsible for segregation in housing, restriction on access to wells and even the use of village streets. Segregation of castes within distinct clusters of houses particularly for the Untouchables, seems to be a common characteristic even today.

"The habitation area... of the untouchables is always separate. If a village is situated on a bank of a river or stream, the untouchables must use the water only from the lower reaches

¹⁰ As reported by Y. B. Damle in staff seminars at the Gokhale Institute of Politics and Economics in Poona; and by I. Karve, "What is Caste"? *The Economic Weekly Annual*, January, 1959, pp. 149-50.

while the place for bathing, fetching water . . . of the touchables was always on the upper reaches. In some villages the village street is divided into two parts, one higher and the other lower and only the latter can be used by the untouchables."¹¹

According to a survey in Bombay State not even one out of 70 villages had allowed the Harijans to take water from the common well.¹² Thus, as we have pointed out before, the actual position of the Untouchables is determined not by their legal rights but by their social and economic dependency which makes insistence on their part to be treated in accordance with constitutional guarantees problematical. While Untouchables may not be serfs of individual families in the legal sense of the term, as a group they tend to remain attached to the village, at least as long as there are no jobs in industries and urban centres. The practice of untouchability thus persists after its legal abolition because economic conditions have not changed sufficiently and because members of the higher castes refuse to undertake certain activities which they consider to be unclean or polluting.

"Nothing illustrates the dilemma of the Untouchables more vividly than the problem of the scavengers in some areas and that of the tanners and leather workers (Chamars) of North India. Whereas installations of facilities which do away with scavenging may run into opposition of the scavengers themselves, the refusal of the Chamars Panchayats to remove the dead cattle even without alternative employment in sight may lead to retaliation which 'is immediate, often cruel and there have been ugly outbreaks of violence in the countryside'."¹³

The foregoing discussion anticipates what is probably the most important effect of the caste system, viz., the segmentation and widespread antagonism which mark all intergroup relations in a caste society. Caste and kinship organization tend to be among the primary factors which prevent the emergence of larger loyalties

¹¹ *Ibid.*, p. 157.

¹² B. Venkatappiah, "Some Problems of Transition of a 'Traditional Society', in N. V. Sovani and V. M. Dandekar, (eds.) *Changing India*, Bombay, Asia Publishing House, 1961, p. 310.

¹³ Lelah Dushkin, "Removal of Disabilities," *The Economic Weekly*, Vol. XIII, Nov. 4, 1961, p. 1696.

and the development of a spirit of solidarity and participation without which neither economic development nor political democracy can be achieved. In fact, in a society of scarcity and acute shortage of land, caste and kinship not only limit social relations and loyalties but also divide the groups into factions. When this happens almost every source of friction may become the reason for disputes and can easily give rise to strife and conflict. The distribution of canal water, irrigation rights, ownership of land, cases of inheritance, competition for rank, quarrels over marriages and dowries, violation of caste taboos, election to the panchayat, sex offenses, rivalries for caste supremacy—any one of these, but primarily land problems, seem to be the cause of major splits between the various kinship and caste groups which consequently tend to form themselves into more or less hostile factions.

In such a "faction-society", as it has been called, people will

"react sharply and unfavourably to any new idea or change for the simple reason that they always fear and suspect that a change may place their opponents and rivals in a more favourable position than their own or in which they are placed now. Each group, therefore, respects, and fights for the *status quo* so that the members of the opposite faction may not gain or improve. Progress itself becomes unwanted because while it may benefit them it may also benefit their opponents and that they would like to prevent at any cost or sacrifice."¹⁴

Under these circumstances many attempts at social and economic improvements may lead to the formation of new factions or old factions may close ranks. A network of inter-factional alliances may be formed with a view to dominating others. Factions composed of the higher castes and groups owning land may attempt to gain supremacy by attaching the poorer groups to their "cause" either by threats or by lending them money or by letting them have land.

¹⁴ Baljit Singh, *Next Step in Village India*, Bombay, Asia Publishing House, 1961, p. 14. For detailed evidence see the village studies referred to *supra* p. 33. On casteism or the exploitation of caste for political and regional interests and the vulnerability of India's political unity see S. S. Harrison, *India, The Most Dangerous Decades*, Princeton, Princeton University Press, 1960. See also E. E. Schattschneider, *Party Government*, New York, Rinehart & Co., 1942, Ch. I.

Indeed, unable to develop the identification with objectives and interests which transcend those of their family, their caste, and their faction, many villagers seem to be incapable of establishing and maintaining an effective machinery of self-help. Even the attempts of economic and social reform introduced by Community Development Projects have, in some instances, led to a deterioration in the existing relations within the village and to an increase of tension between rival factions.¹⁵

We may conclude therefore that caste, social status by descent, segregation and hierarchy give rise to modes of reaction and a general climate of suspicion which makes most forms of social action difficult if not impossible.¹⁶ Indeed feelings of solidarity with other groups which are a prerequisite for any effective concerted social action are not likely to arise under such conditions.

The foregoing conclusions are not refuted by the fact that on special occasions the Indian villager is quite capable of common action. Thus religious festivals and ceremonies, or the construction of a shrine or temple, do require considerable community efforts. However, closer analysis of these community efforts confirms rather than refutes our hypothesis that caste and hierarchy in Hindu society are responsible for the inability to act in a concerted fashion as a means of improving the economic situation of the village. First, cooperation in religious matters is usually prescribed and mediated through one's membership in a joint family and caste and is, moreover, marked by the same ranked participation which characterizes all social life in the village. Secondly, the objectives of those common efforts are religious in character; they have nothing to do with such secular common objectives as the building of a road or a well which may benefit different villagers and castes unequally.

¹⁵ For evidence see Fourth Evaluation Report, *On Workings of Community Projects and N.E.S. Blocks*, New Delhi, Planning Commission, 1957, Vol. 1, p. 65; Vol. II, pp. 29, 60, 65.

¹⁶ A revealing illustration of how the fundamental distrust and mutual fears between villagers are being resolved in specific cases became clear during the author's visit to a village in Maharashtra: In commenting on the fact that there seemed to be only one storage place for certain crops in the village, we were told that this was the only way in which the individual owner could protect himself against arson by hostile neighbours. By storing their crops together they were able to achieve an effective mutual protection against deliberate destruction.

IV. CASTE AND MORAL ALOOFNESS

So far we have dealt with the general nature of intergroup and interpersonal relationship in the Hindu social system. We have analyzed the social factors which make for distrust, suspicion and mutual fear and generally give rise to factions. We must now raise the more fundamental question as to the nature of human relationships in a social system in which notions of purity and pollution on the one hand, and detachment on the other are important values. More specifically, what are the effects of caste on the perception and acknowledgment of the moral qualities of others? What are the consequences of caste and detachment on human relations and the efficiency of action? What role do affection and the feeling of sympathy and compassion for one's fellow men play in a caste society? We are concerned here with the relationships between members from different castes rather than with the interpersonal relations within kinship and caste groups.

Caste and the ideal of detachment tend to have similar moral consequences: they create and support an attitude of moral aloofness. This is perhaps clearest in the case of perfect detachment which although it may be impressive "as a moral achievement . . . has a disconcerting moral corollary: for perfect Detachment casts out Pity, and therefore also Love, as inexorably as it purges away all the evil passions."¹⁷ Caste, with its ritual purity and fear of pollution, has similar corroding effects on sympathy and compassion, especially as far as the members of other castes are concerned.

"[Caste] cuts human beings off from each other. It inhibits the growth of those sensibilities which are required for the perception of the moral quality of other human beings. It is the caste system which cuts human beings off from each other by denying to them the possibilities of connubial and commensal intimacy and their more basic affinity as moral entities. It is the caste system which deadens the imagination to the state of mind of other human beings. It is the caste system, perhaps even more than the other factors like poverty and the crushing ubiquity of other human beings which makes the upper caste Hindus,

¹⁷ A. Toynbee, *A Study of History*, London, Oxford University Press, 1939, Vol. VI, p. 144.

from whose circles most Indian intellectuals are recruited, fundamentally and humanly insensate to the mass of the population who belong to the lower strata."¹⁸

We have no desire to overestimate or to idealize the strength and the prevalence of compassion and love in contemporary Western societies. Undoubtedly there has always been a wide gap between the verbal acknowledgment of love and compassion as positive values and the practical measures taken to alleviate the distress of the underprivileged. But it will scarcely be denied that the feeling of affinity with all human beings and the perception of their moral quality has played a major role in all movements of social protest and social reform in the West. It is the perception of needless human suffering and cruelty which has sustained the feeling of moral indignation without which all movements of social and political reform would have remained ineffective.

Moreover, this moral aloofness as a state of mind which fails to perceive the underlying moral affinity of all human beings may be the basic explanation also for the relative ease with which promises and commitments are made and not kept. While this phenomenon has been explained in terms of the importance attributed to signs and bad omens which make it appear inauspicious at the last moment to keep the promise we feel that such a change of mind is made easy by an attitude of moral aloofness. For if the moral quality and affinity of other persons were unequivocally recognized and accepted either on the basis of moral law or as a religious commandment the breaking of a promise would be regarded as a moral failure. It is clear that moral aloofness in this sense affects not only the quality of interpersonal relations but also undermines efficiency and performance at all levels.

Furthermore, if we contrast the equalitarian climate of the West centered as it is on the principle of the moral quality of all human beings regardless of status with the principles of caste, purity and pollution, it becomes clear why it has proved so difficult in India to mobilize human energies for the eradication of poverty and human suffering. Indeed, as long as it is possible to see in the suffering and the disabilities of the Untouchable, the beggar or the leper a demonstration of fate or the iron law of retribution, neither

¹⁸ E. Shils, "The Culture of the Indian Intellectual," *Sewanee Review*, Vol. 67, 1959, pp. 257-58.

compassion nor indignation can become strong social forces. It is true that moral aloofness has been recognized and castigated in strong terms by Indian reformers. Thus, Vivekananda pointed out: "In India there is a howling cry that we are very poor, but how many charitable associations are there for the well-being of the poor? . . . Are we men? What are we doing for their livelihood; for their improvement? We do not touch them, we avoid their company! Are we men?"¹⁹ But moral aloofness has withstood many attacks by social reformers and great leaders who like Nehru deplored "those wretched don'ts—don't do this, don't touch that, don't go out, don't marry outside caste and the like."²⁰ The difference between Vivekananda and Nehru lies in the fact that the former accepted the caste system, whereas Nehru rejects it. Thus Vivekananda writes: "Caste is a very good thing. Caste is the plan we want to follow. . . . The plan in India is to make every body Brahman, the Brahmin being the ideal of humanity. . . . Indian caste is better than the caste which prevails in Europe or America. I do not say that it is absolutely good. Where will you be if there were no caste? Where would be your learning and other things if there were no castes?"²¹

It may be argued that since Hinduism stresses the oneness of all life and rejects the killing of animals it cannot be said to be devoid of pity and compassion. But this argument overlooks the fact that the religious prohibition of the killing of animals is not absolute but a matter of degree; it is particularly strong in the case of cows and other sacred animals. And neither this prohibition nor the feeling for the oneness of all living things implies a protective attitude towards animals in general or has led to the provision of shelter, food and water for the large herds of decrepit and helpless cattle that roam the countryside. Even a man of the stature of Gandhi at a time when he enjoyed already widespread esteem provoked a storm of protest and personal abuse in Ahmedabad when he attempted to reinterpret the doctrine of *ahimsa* so as to permit the taking of life of a sick and suffering calf. He encountered the same opposition when he approved of the killing of rabid dogs and he hesitated to take a similar position in the case of

¹⁹ Swami Vivekananda, "The Elevation of the Masses," in *The Mission of the Master*, Madras, G. A. Nateson and Co., n.d., p. 361.

²⁰ *The Hindustan Times*, October 6, 1961.

²¹ Vivekananda, *op. cit.*, p. 365.

monkeys which threaten crops and fruit trees with destruction.²²

V. JOINT FAMILY AND FERTILITY

The economic and social effects of the joint family can be understood only within the context of Hindu culture. For the joint family is in harmony with the Hindu world view and religion, the caste system and the hierarchical principle which characterizes most interpersonal relationships. What is particularly important for the purposes of our discussion is the fact that the joint family encourages the high fertility rates which were functional as long as high mortality rates remained unchecked by modern medical techniques. By bringing up the child and by transmitting to it the essential elements of Hindu culture, the joint family perpetuates a modal personality type which is more or less well adapted to its environment. It is within this broad context that the social scientist can find a relevant answer to the question of the impact of the joint family on economic development.

Before examining some of the negative effects of the joint family on economic development it may be useful to analyse briefly some of its positive aspects. Indeed to ignore these positive aspects would leave us in ignorance concerning the reasons which account for the relative strength of the institution of the joint family. The Hindu family serves two important positive functions. First, it provides some degree of security to those of its members who may lose their earning capacity due to illness, unemployment or other misfortunes. As such it may be said to bear some of the social costs which the economy as a whole leaves unpaid, it serves as a cushion against the consequences of chronic poverty. Secondly, it acts as a form of corporate structure for the pooling of resources required for joint ventures; for instance, it helps to maintain relatively more efficient economic units especially in agriculture, than a nuclear family would be able to do. This is of considerable importance especially under conditions of heavy population pressure. Not only can meager capital funds be pooled but small and fragmented holdings can be combined and cultivated together. Thirdly,

²² See Louis Fisher, *The Life of Mahatma Gandhi*, New York, Harper and Brothers, 1950, pp. 236-239 and D. G. Tendulkar, *Mahatma, Life of Mohandas Karamchand Gandhi*, Bombay, Vithalbai K. Jhaveri and D. G. Tendulkar 1951, pp. 420-426.

the joint family is able to pool the earnings of all its members and to distribute them to each in accordance with needs as defined and sanctioned by custom and tradition.²³

At the same time, however, the joint family has important effects which can only be described as negative in relation to economic development. Take for instance those customs and traditions which combine to promote high fertility, such as the high value placed on male offspring, the custom of marrying early, the comparatively low status of childless women or of the young woman before the birth of a son, all of which encourage a tendency to have offspring as early as possible and in considerable numbers. Considerations of the economic costs of rearing children need not act as restraints because the burden and effort of having additional children do not fall on the biological parents alone but are borne by the joint household.²⁴

Indeed, from the point of view of young married persons, or for that matter even from the perspective of the rural joint family, an increase in the number of children cannot be regarded as irrational—no matter how self-defeating and deleterious the effects of a high birth rate may be on the average level of living. There are countless peasant families who “have never had either the opportunity nor the capacity to ‘invest’ in land, or other ‘productive’ things . . . and who have been able to achieve security in old age only by rearing a family . . .”²⁵ Viewed in this light the rearing of children may in fact be regarded as an investment decision in the double sense that it draws upon and reduces actual as well as potential savings (since it cuts into consumption) and that it adds to the supply of the potentially productive factor labour (even though in fact it may only swell the ranks of the underemployed or the unemployed). For the cultivator the resources devoted to the rearing and the care of children is a kind of forced saving and investment combined, which competes—at least where both

²³ Whether this reliance on the reciprocity and redistribution principle (Polanyi) in the joint family necessarily reduces incentives to work and promotes idleness is a question which deserves further empirical investigation. See M. F. Nimkoff, “Is the Joint Family an Obstacle to Industrialization?” *International Journal of Comparative Sociology*, March, 1960, Vol. 1, No. 1.

²⁴ K. Davis, “Institutional Patterns favoring High Fertility in Underdeveloped Areas,” in L. W. Shannon, (ed.) *Underdeveloped Areas*, New York, Harper and Brothers, 1957, pp. 88-95.

²⁵ K. H. Parson, *op. cit.* p. 12.

cannot be fed properly—with the breeding and feeding of the cattle population or other productive investments. It is hardly necessary to point out that high fertility, declining death rates and a rapid expansion of population hamper the development effort by absorbing increasing percentages of savings and capital required for demographic investment. These factors also increase the proportion of unproductive persons in the population who have to be maintained.

Other customs and traditions connected with the joint family have the tendency of retarding the rate of economic growth by inhibiting the utilization of the nation's potential surplus for productive purposes. Take for instance the use of considerable surpluses for purely ostentatious consumption such as expensive celebrations of weddings, dowries, death feasts, ornaments, and the hoarding of gold and silver.²⁶ These customary outlays, just as the time and money spent on a host of tradition-bound functions and festivities of a religious and secular character have the same effect: they reduce the flow of savings and divert potential capital surpluses from productive to non-productive uses. While no reliable estimates of the relative and absolute magnitude of expenditures for non-productive purposes are available, it is noteworthy that they have been considered of sufficient significance as to warrant the enactment of legislative restrictions.²⁷

VI. THE HINDU PERSONALITY

No analysis of the effects of Hindu culture and Hindu social organization on economic development can afford to omit a discussion of the Hindu personality. What are the predominant traits of the Hindu personality which the child acquires in the process of enculturation? We raise this question in full realization of its controversial character. However, this is not the place to go into a lengthy discussion of the concept of national character or modal personality; suffice it to point out somewhat dogmatically that any distinct culture selects and validates some personality traits

²⁶ It is hardly necessary to add that the low status and insecurity of childless women, widows and divorcees in India makes it not necessarily irrational from the point of view of the married woman to accumulate ornaments, gold or bullion.

²⁷ For example, in Rajasthan where a Minister is reported to have remarked "the money spent on these death and marriage feasts in Rajasthan would suffice to finance its Five Year Plans." K. Nair, *op. cit.*, p. 127n.

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while it rejects others. The acceptance of this thesis does not rule out the emergence and existence of diverse and autonomous personality types.²⁸

We have referred earlier to one important element of the Hindu personality: the submergence of the individual in the group which accounts for a group-directed pattern of values and aspirations. Desires are accordingly shaped by the group and any failure to fulfil them does not necessarily lead to frustration and neurosis or at least not to the same extent as would be the case in more individualistic personalities. Furthermore, a person who is governed by group aspirations and traditions may be said to be more regimented than the individual in the West without necessarily feeling that he is oppressed.²⁹

In the Indian extended family which is itself for all practical purposes a hierarchically organized network of interpersonal relations, enculturation is mediated by a greater number of persons and continues over a much longer period of time than is the case in a nuclear family. As a result affection is usually spread over several members of the large family and identification with particular persons is likely to be less close and intense.³⁰ While this may reduce the "oedipal" antagonism between parents and children it may also have the effect that the child "cannot identify himself

²⁸ For a fuller discussion of the issues raised in this connection see K. William Kapp *Toward a Science of Man in Society*, The Hague, Martinus Nijhoff, 1961, pp. 169-71.

²⁹ "...the majority...do not feel regimented...And not all Indian women either...feel...oppressed, suppressed, repressed and depressed! Our conception of freedom is different because our conception of man is *purusha* and not the individual, or *vyakti*." D. P. Mukerji, "Indian Sociology and Tradition," in R. N. Saksena, *Sociology, Social Research and Social Problems in India*, Bombay, Asia Publishing House, 1961, p. 26.

³⁰ "A man born in a joint family in the northern zone has a very large number of playmates of his own generation. He may be with the mother during the feeding times only. At other times he may be looked after by one or two aunts or grandmothers. He and the other little ones, once they are weaned from the mother's breast may also be sleeping with their grandmother. His initiation ceremony is generally performed together with cousins of his own age. In India it used to be not the proper thing for a man to fondle his own child in the presence of other members of the family or when strangers are present. So a child is generally fondled by the grandfathers or younger uncles. He is thus not dependent on his own parents physically and psychologically as is a child in a modern European household. His sisters are generally with the women folk." I. Karve, *op.cit.*, 1953, p. 13.

with any one particular person . . . The big family acquires somewhat the position of an impersonal system from where he can never be altogether rejected but to which he never wholly belongs. This weak foundation and the absence of a clear-cut personality for identification and imitation must be hampering the growth of the Hindu child towards maturity."³¹

The patriarchal structure of the family (we are omitting here any consideration of the remnants of matriarchy in some parts of Southern India), with its strong central figure of authority as well as the omnipresence of the ancestors does, however, provide a sense of permanence and protection. Indeed this feeling of permanence and protection may be sufficiently strong to create expectations of security and to encourage a reliance on help from others—a behaviour pattern which may be carried over into later life and may become part of the Hindu personality. The result may well be the crystallization of a dependency complex which leads the individual to expect to be taken care of in a manner reminiscent of childhood. Additional factors which may make for and strengthen the dependency complex are the feeling of helplessness generated by the iron law of retribution and other supernatural influences, the existence of powerful social and political forces such as the landowner, the village headman, the district collector, an occupying power or a colonial and paternalistic administration. Whether in addition there is also an identification with a strong mother or father figure which supports the emergence of a dependency complex is a question which must be left open in this context.³² The hypothesis of such a dependency complex would provide an answer to many perplexing psychological and sociological phenomena. Thus, it would explain not only the *guru*-pupil relationship and the extent and intensity with which dependency on the family is maintained, but it would also suggest an explanation for the reliance on, and expectation of, outside help. One may speculate on the emotional effects which a break in a dependency relationship may have on the Hindu personality. Disappointments in expectations of help and denials of dependency and protection

³¹ D. Narain, *op. cit.*, p. 179.

³² *Ibid.*, 183. See also W. S. Taylor, "Basic Personality in Orthodox Hindu Culture Patterns", *Journal of Abnormal and Social Psychology*, Vol. 43, No. 1, Jan. 1948; pp. 3-12. On the dependency complex in a colonial setting see O. Manoni, *Prospero and Caliban: A Study in the Psychology of Colonization*, New York, Pantheon Books, 1956.

are particularly apt to give rise to strong feelings of bitterness, anger and violent emotional reactions. Even more important, the emergence of a dependency complex would have the effect of delaying and even preventing the child and young person from reaching the stage of a fully developed and independent individuality.

The hypothesis of the dependency complex and the related personality type is of considerable interest for the analysis of economic development in a traditional society. In the first place, it throws additional light on the ease with which villagers come to rely on outside help rather than self-help. This was so under the British system of district and local administration and, to judge from the experiences of the Community Development Projects, it still applies today. In fact, a dependency complex tends to relieve the individual of the necessity of developing, to a significant extent, self reliance, self-confidence and initiative.

Secondly, it may be argued that the dependency complex and the submergence of the individual in the group will be carried over into all performances and professional relationships. A person whose springs of action are predominantly group-determined and whose feelings of security are derived from his dependency on his group will experience difficulties in developing an impersonal work discipline and commitments to an impersonal organization such as a firm (whether private or public). Indeed, discipline, orderliness, precision and punctuality for the sake of such an impersonal organization, may be rejected as pedantic, tyrannical and intolerable.

Thirdly, the hypothesis of a dependency complex together with the submergence of the individual in the family, kinship and caste would explain why and how his aspirations and values are strongly tradition-bound. In fact, goals and behaviour patterns are shaped and governed by these group traditions which are set by the culture rather than by individual needs, goals and desires. While this adherence to traditional patterns of group action may have the effect of reducing the feeling of regimentation and repression and may diminish the experience of frustration, it also strengthens the hold of tradition over individual aspirations and motivations. That is to say tradition in a society with group-orientated action patterns will have a greater power of resistance than tradition in a society in which individualistic action patterns are determined by voluntaristic strivings towards individual goals. Under such

circumstances traditional value orientations and world outlook may not only withstand the impact of social change but may actually remain powerful enough to absorb and assimilate such changes and reshape them along traditional lines.

For all these reasons we must conclude that the modal Hindu personality type is that of a tradition-oriented person rather than that of an innovator.

VII. SUMMARY AND CONCLUSIONS

What then are the conclusions which can be drawn from our analysis of the impact of Hindu culture and Hindu social organization on economic development?

Hindu culture and society are caught between conflicting and contradictory forces : the forces of tradition and the forces of modernization. The former manifest themselves in such basic thought patterns as cyclical time and cosmic causation, the doctrine of rebirth and *Karma*, the ethical ideals of selfless action, sacrifice and renunciation, the interpenetration of the supernatural, the temporal and social, the continued strength of the caste system and the disabilities of the Untouchables, the role of the joint family and the traditional personality structure. The forces of modernization are represented by the introduction of universal suffrage, policies of land reform, the channelling of investment funds into industrial production, the creation of social overhead capital such as the provision of educational facilities, the construction of dams and irrigation facilities, administrative reforms, special treatment of backward castes and classes and a host of similar measures. The critical question remains as to which of these forces are likely to prove stronger in the long run. It is needless to say that such a question can be answered only in a highly speculative fashion. No answer is likely to command unanimous consent.

While the attainment of Independence has given India the opportunity to shape her political and economic policies and to embark upon a deliberate programme of national economic development, it cannot be said that Independence has removed any of the deep-seated obstacles to economic development which are rooted in Hindu culture. The independence struggle seems to have left no significant impact on Hinduism as a world outlook and a religious interpretation of the world. If anything, the struggle for

independence may have left the country a heritage of populist nationalism which has not weakened the forces of traditionalism. Indeed populist nationalism and traditionalism may well have the effect of reinforcing the basic world view and value orientations represented by Hinduism. While it was inevitable that aspirations for national independence found their expression in praise for the wisdom of traditions and the sagacity of the ancestors, these appeals to the past offer no solution for the problems of the present. On the contrary "they simply prolong the predominance of generalities and nebulous standards and ideals which, though they may be ineradicable from the political platform, contribute little to the hard work of making economic institutions function effectively."³³

The introduction and maintenance of universal suffrage remains the most powerful agent of social change. However, even the effectiveness of this agent is, as we have seen, seriously affected by a heightening of factional tensions with its fissiparous and disintegrating tendencies. While factions and tensions are unavoidable, and indeed are part of social change, casteism (in the sense of exploiting caste for political purposes) may defeat the goal of bringing about an integrated society and self-sustained economic development.

Apart from casteism and factionalism, the most important obstacles to modernization and secularization have their root in what we have identified as the core of Hindu culture: the traditional thought and value pattern which underlie the Hindu interpretation of the universe and man's role in it. Hindu culture shares with other pre-scientific civilizations a basic acceptance of cyclical time and cosmic causation and the related interpenetration of the supernatural with the temporal-social. This is in open conflict with a secularized society and the scientific temper. India has never experienced the religious, political, scientific, intellectual and technological reorientation which prepared the West for the intellectual, agrarian and industrial revolutions of the last centuries. While there have been several attempts at religious and social reform, none of them have apparently succeeded in seriously undermining the principles of caste or the hierarchical organization of society, or the ideals of purity and pollution. Indeed, it cannot be too strongly emphasised that none of the

³³ E. Shils, *Role of the Intellectual in a Developing Community*, Calcutta, Institute of Political and Social Studies, n.d., p. 9.

earlier reform movements ever effectively challenged the underlying distinction between an illusory world of appearances and that of an ultimate reality or, for that matter, the idea of rebirth in accordance with an iron law of retribution.³⁴ Furthermore, neither Gandhi's opposition to untouchability nor the constitutional guarantees and special treatment of Untouchables nor Nehru's unequivocal rejection of the caste system have so far had any serious impact on the ideas and attitudes upon which the caste system is based and which it promotes and enforces.

It would be wrong to assume that secularization requires only the separation of church and state and that it can be achieved by proclaiming freedom of religion. If this were the case India would always have been a secular state for it has never had an organized church and has always enjoyed freedom of religion. Secularization, in the context of economic development, calls ultimately for the abandonment of the concepts of cyclical time and cosmic causation and their replacement by the notions of linear historical time and natural (physical) laws. This must be the ultimate measure of secularization and modernization. For as long as cyclical time and cosmic causation and its metaphysical implications are not abandoned there remains room for the supernatural, the stars and the occult to intrude into the temporal sphere and to override natural causation and natural laws. That is to say, under such conditions man cannot develop the necessary confidence in his ability to master a hostile environment and his pride of living will be undermined. Instead of relying on his own strength and the application of natural laws he will be continuously tempted to appeal to supernatural forces and to propitiate occult powers.

Despite many verbal declarations to the contrary there seems to be little evidence that India's political and intellectual leadership is unequivocally committed to a secular interpretation of the human and social situation. On the contrary, there is good reason to believe that many of India's political and intellectual leaders,

³⁴ While the various Hindu reform movements of the nineteenth and twentieth century doubtless contributed to secular reforms (such as the abolition of sati, the legislation on child marriages and the promotion of education), it can hardly be said that they were widely accepted as a religious renaissance of Hinduism. For an account of the opposition of Hindu orthodoxy to Arya Samaj and Brahmo Samaj, both of which are pictured as a spent force which never caught the imagination of larger masses, see D. S. Sarma, *The Renaissance of Hinduism*, Benares, Benares Hindu University, 1944.

with the notable exception of Nehru, are as yet uncommitted to the scientific temper and have remained traditionalistic in their orientation. To the foreign observer it seems as though only limited and half-hearted efforts have so far been made to reorientate and reinterpret Hindu tradition in order to make it part of the great venture of modernization and socio-cultural change. Indeed it appears that there are no religious or intellectual reformers on the Indian horizon who may do for India what Luther and Calvin, or Galileo and Newton, did for the modern interpretation of the world in the West. And yet, such a reinterpretation is required for the transformation of a tradition-bound culture into a new society.

What would be the first step toward such transformation is precisely what India has always found most difficult to do, viz., to select and reject rather than to preserve and to change only by agglomeration. Indeed, this traditional tendency to permit change by agglomeration rather than selection and rejection seems to continue to guide the process of social development. While conservative groups call for the revival of old values, Nehru insists that India cannot live in the past surrounded by rituals but adds rightly "that we must combine the best of both the old and the new." India has yet to make these fundamental choices and to clarify what constitutes the best of the old and the new. Her intellectual leaders must also find ways to integrate tradition with the new ways of living. Only when this painful but creative intellectual process of adaptation has found acceptance will it be clear that India is willing to pay the price of economic development in terms of abandoning those elements of her pre-technological civilization which stand in the way of the necessary secularization and modernization.

In the light of the results of our analysis it can hardly be doubted that Hindu culture and Hindu social organization are determining factors in India's slow rate of development. It is not only the lack of capital resources or skilled manpower which impedes the process of economic growth but non-secular and pre-technological institutions and values such as the hierarchically organized-caste system, the limited or static levels of aspirations, moral aloofness, casteism and factionalism—to name only a few of the major barriers. Since these socio-cultural elements are growth-determining factors it will be necessary to take them into account in economic planning, otherwise the expected rate of economic development will con-

stantly be slowed down by persistent discrepancies between expected and actual increases of output and productivity.

A lasting solution of the problem of economic development can be found only by a gradual but systematic transformation of India's social system, of her world outlook, and levels of personal aspirations. This does not mean that India must copy every step which the West or the Soviet Union have taken on their long and successful road toward a modern society. However, to a considerable extent such transformation calls for the application and maintenance of criteria of technical efficiency. There can be no progress in India's agriculture and food production unless social institutions are adapted to the technical requirements of scientific agriculture just as a large-scale irrigation and drainage system, or a network of modern transportation, or a system of flood protection require institutional arrangements in harmony with technology. Western Europe, the United States and the Soviet Union have been able to make the necessary adjustments in their socio-cultural arrangements in the past. As a matter of fact, they are continuously abandoning old traditions by adapting their institutional arrangements to new economic and political requirements. The difficulties of such adjustments should not be underestimated, particularly when we consider the magnitude of such changes as the shift to automation, the establishment of a European Common Market, the abandonment of submarginal farms, the consolidation and concentration of farms and plants, and the emergence of megalopolis to mention only a few major transformations.

Undoubtedly the problem of social change is infinitely more difficult in a pre-technological society in which desires and goals are group- and hence tradition-directed. What is required is a reinterpretation of the core of Hinduism and a clear separation between the social and the supernatural as well as social and political reforms and their implementation by public administration in order to prepare the ground for the emergence of institutions and aspirations which foster creativity and individuality in the great mass of ordinary people. For a traditional culture which is not open to socio-economic change while the rest of the world, including its powerful neighbours, are adapting their institutions to new technologies, pursues in effect a policy of cultural parochialism. Such isolation did not protect India in the past; today it invites political disaster.

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Finally, there can be no doubt that socio-cultural change is primarily an internal problem. While financial aid from abroad may help to ease the transition in a similar manner in which relative abundance has facilitated social reform in the American economy, institutional change is not dependent upon foreign aid and foreign loans. Indeed no matter how much foreign capital may be sunk into an economy, economic development will become a cumulative process only if institutional obstacles to economic growth are overcome. In this sense, investments in modernization and institutional change constitute the most promising outlets for India's limited real savings.

IV

ECONOMIC DEVELOPMENT, NATIONAL PLANNING AND PUBLIC ADMINISTRATION*

I. ADMINISTRATION: A STRATEGIC FACTOR OF ECONOMIC DEVELOPMENT

THE SUCCESS or failure of national economic planning in the under-developed world depends to a significant degree upon the establishment of an effective system of public administration capable of implementing the economic, social and political reforms and policies which the development plan entails. By giving effect to these reforms and policies public administration not only implements the plan but also overcomes some of the suspicion and distrust which separate the government and the people in many of the economically less advanced countries and which, in the past, have often been responsible for the failure to evoke popular initiative and participation in the planning effort. Thus the strategic significance of public administration in economic development is to be found in the fact that it implements the plan, that it releases popular energy and initiative as well as community efforts and that it channels latent propensities for co-operation and self-improvement into productive activities.

The connection between public administration and economic development has been stressed by all those earlier political economists who have emphasized the relationship between politics and economics and indeed the primacy of the former over the latter. It is no accident that these writers from Alexander Hamilton to Daniel Raymond and Friedrich List were all influenced by their close contacts with the problem of economic development in the then "under-developed" United States of America. List in particular singled out public administration and government as strategic factors in economic development. Indeed, his well-known doctrine of protectionism is merely a part of his more fundamental theory of productive

* Reprinted with permission from *Kyklos*, 1960, XIII, 2, pp. 172-202.

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forces in which he stressed the primacy of institutional factors in the development process.¹ Economists and economic planners who ignore these "political" and "institutional" factors in economic growth run the risk of seeing their calculations and policies defeated by non-implementation and non-participation resulting from a quantitatively deficient and qualitatively defective system of administration.

To call public administration a strategic factor of economic development is not equivalent to considering it as the only factor or for that matter the primary cause. The process of growth and development is neither set nor kept in motion by one factor alone. Public administration is at best only one of several factors in economic growth. It is "strategic" in the sense that it influences and determines the success of the entire development plan and that it is susceptible to deliberate social control and change.²

Of course, planning authorities are aware of the strategic role of public administration for the implementation of the plan, and problems of public administration are anything but a neglected factor in the literature dealing with economic development.³ However,

¹ "The publicity of the administration of justice, trial by jury, parliamentary legislation, public control of state administration, self-administration of the communalities and municipalities, liberty of the press, liberty of association for useful purposes, impart to the citizens of constitutional states, as also to their public functionaries, a degree of energy and power which can hardly be produced by other means. We can scarcely conceive of any law or any public legal decision which would not exercise a greater or smaller influence on the increase or decrease of the productive power of the nation." Friedrich List, *The National System of Political Economy*, New York 1904, p. 113.

² J. M. Clark used the term "strategic" in this sense: "A factor may be said to have strategic importance if it has real power to control other factors and to determine the general character of the results; and it has peculiar strategic importance if, in addition, we have power to control it." *Strategic Factors in Business Cycles*, National Bureau of Economic Research, New York 1934, pp. 6-7.

³ See J. J. Spengler, "Public Bureaucracy, Resource Structure, and Economic Development", *Kyklos*, 1958, pp. 459-89 and the literature quoted therein. The authors of India's Second Five Year Plan emphasized the strategic significance of administration in the following words: "While the area of agreement on matters of policy is considerable, doubt exists whether in its range and quality administrative action will prove equal to the responsibilities assumed by the Central and State governments in the Second Five Year Plan. It is likely that as the plan proceeds difficult issues will relate less to matters of policy and approach, more to questions of administration and organization. . . . If the administrative machinery both at the Centre and in the States, does its work with

while the general importance of public administration has found recognition the specific manner in which economic development and national planning are affected by inadequate and defective public administration is rarely explored. This is at least in part due to the fact that the whole complex of administration and administrative reform is regarded as lying outside the province of economics which takes human attitudes and institutional (administrative) arrangements or their defects as given and prefers to concentrate attention on the process by which such "dependent" and "independent" variables and aggregates as the propensity to consume, the marginal efficiency of capital, the national income, capital output and the volume of employment are influenced and determined by what is considered as given. For all practical purposes growth and development in the less developed parts of the world seem to depend rather upon the speed and efficiency with which given attitudes and institutions can be and actually are modified and changed. Viewed in its truly dynamic dimension the process of economic growth and development is and always has been a problem of political and socio-cultural change. Economists and economic planners are likely to make their greatest contribution to the actual economic development of their respective countries if they identified and acted upon the strategic factors in this process rather than by tracing interrelationship under given (i.e. stationary) conditions in the light of past performances.

II. PUBLIC ADMINISTRATION AND "LAISSEZ-FAIRE"

The view that economic development is a "natural", autonomous and self-regulating process which calls for no further social, political and administrative change has always been a myth which any detailed study of the process of economic growth in Europe, the United States and the Soviet Union can easily refute. Economic growth and development everywhere has been accompanied if not indeed initiated by far-reaching administrative reforms. The system of mercantilism which preceded the period of rapid economic development efficiency, integrity and with a sense of urgency and concern for the community, the success of the second plan would be fully assured. Thus, in a very real sense, the second five year plan resolves itself into a series of well defined administrative tasks." Government of India, Planning Commission, *Second Five Year Plan*, 1956, p. 126. See also R. L. Park and I. Tinker (eds.), *Leadership and Political Institutions in India*, Princeton 1959, especially Parts VI and VII.

in England and Western Europe was a period of radical administrative reforms aiming at economic and political integration and preparing the way for the emergence of national economies in England, France and Holland. The same applies to Peter the Great's mercantilist reforms and the elaborate political and administrative changes that preceded and still accompany the planning and development efforts in the Soviet Union. While none of this is either new or surprising, it is important to point out that the transition to relatively free markets in England and later for a limited time in Western Europe, saw not a scuttling but rather an enlargement of the role of administration. Indeed "the road to the free market was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism . . . The introduction of free markets, far from doing away with the need for control, regulation and intervention, enormously increased their range. Administrators had to be constantly on the watch to ensure the free working of the system. Thus even those who wished most ardently to free the state from all unnecessary duties, and whose whole philosophy demanded the restriction of state activities, could not but entrust the self-same state with the new powers, organs, and instruments required for the establishment of *laisser-faire*".⁴ What is more, this increase of administrative functions of the state, which had the blessing of Bentham's utilitarianism gave rise to a central bureaucracy and an administrative machinery which for many purposes replaced parliamentary legislation (in England) and moreover had to be constantly adapted to new requirements.⁵

Indeed there was little that was "natural" or "automatic" about *laisser-faire*; it was preceded by deliberate administrative reforms and called for continuous expansion of state action. The creation of a civil service and the continuous centrally initiated administrative reforms in England, the tradition of effective local self-government, the constant improvements in public administration and the continued attention paid to policies of internal improvements ever since the inauguration of Federalist policies in the United States, the administrative reforms under Stein and Hardenberg in Prussia and the deliberate state measures by which Germany and partly France succeeded in matching England's economic development are too well known to require detailed discussion in this context.

⁴ Karl Polanyi, *The Great Transformation*, New York 1944, pp. 140-41.

⁵ *Ibid.*, p. 140.

III. NATIONAL ECONOMIC PLANNING AND PUBLIC ADMINISTRATION

If economic development under the system of *laissez-faire* called for a considerable increase of the administrative apparatus planned economic development is likely to call for an even greater administrative effort. There are at least two reasons for this. In the first place, many of the economically less developed countries enter the stage of economic development at a different level and with a considerably less developed machinery of government than did most of the Western European States during the Industrial Revolution. With few exceptions of which India is an outstanding illustration many of the underdeveloped countries lack any well functioning administration. Even central governments are often without trained personnel and the machinery required for the implementation of economic and social policies. In so far as they exist at all, regional administrative authorities are concerned mostly with such functions as the collection of revenues and the performance of police duties.

Secondly, the role and significance of administration are greatly enhanced if economic growth becomes the objective of a deliberate economic plan. A national development plan is essentially a blueprint of public policies designed to bring about certain results which would not be forthcoming without it. Indeed such a development plan may be said to be a decision determining the strategy of government action embodied in rules, regulation, controls, directives and "impulses" all of which are designed to increase output and productivity. "To be practical and effective, the plan must not only be a general scheme, but must have this [scheme] adequately worked out in detailed directives by careful planning of the different sectors. And it must give instructions for the specific inducements and controls by which the realization of those directives becomes effected".⁶ It is clear why under these circumstances public administration assumes a key role in the development effort. Directives and controls must be applied, inducements have to be implemented and the progress and development process must be recorded and supervised so that the necessary adjustments can be enacted and effected as they become necessary. If governments assume these responsibilities of initiating, directing and promoting economic development through various policies and reforms designed to channel investments and

⁶ Gunnar Myrdal, *Economic Theory and Underdeveloped Regions*, London 1957, pp. 80-81.

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to overcome structural obstacles and social rigidities the establishment of an effective system of administration and an efficient civil service is bound to assume an unparalleled importance in the less developed countries. It may be worthwhile to contemplate briefly the range and variety of the various administrative implications of economic planning.

Organization and Administration of the Economic Plan

Planning raises issues of organization and administration which are so central and far-reaching in their implications for the development process that they may well serve as the point of departure for our discussion. The programming of production goals and their coordination and synthesis into an over-all plan depends upon an appropriate central and regional planning organization that must gather and process the needed statistical information. This is not simply a matter of training and attracting to the central planning agency a number of statisticians and economists but calls for the creation of regional statistical and technical units which gather the necessary data and provide the information for a careful assessment and revision of targets in the light of actual performances and future potentialities. Economic planning is not possible without this two-way flow of information between the top agency and regional technical units. Any incompetence, lack of efficiency or corruption in this administrative set-up affects the quality of the performance and may jeopardize the success of the annual and the long-term development plan. Special difficulties of an administrative character arise from the widespread tendency of the rural population to conceal actual harvests and output potentialities for fear of higher taxes and other levies. Many a development plan has come to grief due to the absence of reliable data or miscalculations concerning such variables as national output or income, population growth, the available manpower resources, available food supplies and crop estimates, yields, probable imports and exports, and the supply of foreign exchange.⁷

The collection of statistical data is, of course, only a preliminary step in the entire planning procedure. The most important responsibility of the planning agency is to formulate the plan. That is to

⁷ A case in point are the widely publicized and admitted miscalculations of output data in the Chinese economy in 1958-59 which were officially attributed to the lack of experience of the statistical personnel and lack of organization.

say it must define and redefine its content, it has to make decisions concerning priorities; it must coordinate the various parts of the plan; it must choose among alternative objectives and activities; it has to mobilize the necessary financial resources; it must allocate funds into specific budgets; it must determine the allocation of foreign exchange in accordance with its import priorities. Nor is this all. The planning agency must not only formulate the plan and make the necessary allocations but it must watch over its implementation; it must endeavour to discern and appraise favourable and unfavourable developments; it has the responsibility of reformulating the plan in the light of new developments and the actual implementation or lack of implementation of the plan. This means that priorities may have to be redefined, resources have to be reallocated, policies have to be changed and programmes in some fields may have to be stopped in accordance with new objectives and new priorities. Indeed the planning agency is not simply a technical body concerned with various aspects of economic intelligence but it is involved in the making of political and administrative decisions of the highest order. No matter what its constitutional status and regardless of the actual definition of its functions and responsibilities a planning agency that formulates and administers a national economic plan is an agency of the political executive and, moreover, has to maintain the closest possible contact with the central, state and local administrative machinery. Just as any other policy decision the plan can be effective only if it is a binding decision for all concerned, that is to say if it can be followed through and implemented. While it is possible to distinguish conceptually between the planning process and its implementation by administration, for all practical purposes this line of demarcation cannot be maintained, or, if it is drawn and insisted upon, e.g. if the planning agency draws up the plan but has no power to follow through and see to it that decisions and policies are implemented by the administrative apparatus, one cannot really speak of national economic planning. And yet, lack of implementation and incomplete coordination seem to be two major limitations of the planning effort in the underdeveloped world. Planning commissions with more or less advisory capacities only seem to be the order of the day.⁸

⁸ The relevant and important issues of administrative centralization and decentralization in planning cannot be dealt with in the present article.

Implementation and Coordination of the Economic Plan

Central governments often have to rely for the implementation of their policies and controls upon regional and local administrative agencies that are not under their jurisdiction. Of course, it is possible to argue that in this way local initiative is harnessed and local wishes and requirements taken into account. Frequently however, the responsibility for the implementation of the plan may not exist at all at the regional and local administrative level. *De facto*, there may be little coordination between the various layers of government. The central government may enact a piece of legislation and depend for its enforcement entirely upon state or local agencies which may have no machinery to deal with the matter or, for other reasons, may ignore the central legislation and pass laws of their own. While the central government will often have to subsidize the development effort of state and district governments its power to insist on enforcement and implementation may nevertheless be limited. Indeed central governments may be more or less impotent to force state governments to implement development legislation and to coordinate their own economic policies with those of the centre. "We can only draw attention . . . ; we can press them and we can request them but ultimately the decisions have to be taken by them."⁹ This inability of the centre to implement its decisions and to take quick and decisive action is one of the major administrative deficiencies of economic planning under conditions of a federal system of government. To rely for the implementation of policies and controls upon government agencies and an administrative machinery that are not under its jurisdiction exposes the plan to the serious danger that decisions taken at the centre will not be carried out or will actually be defeated by contradictory policies pursued at the state and district level. Needless to say that this danger is the more acute the greater the area of state rights within a federal system of government. But even under conditions of a more centralized political system this danger of non-enforcement of decisions and policies is not necessarily removed due to the absence or inefficiency of local administrative agencies.

⁹ Statement by India's Union Food Minister, *The Economic Weekly* (Bombay), March 14, 1959, p. 385. An American investigator of public administration in India likewise concluded that "the new government of India is given less basic reserve in power. . . The power that is exercised. . . in New Delhi is the uncertain and discontinuous power of prestige. It is influence rather than power". P.H. Appleby, *Public Administration in India: Report of a Survey*, New Delhi 1953, p.17.

In addition to the lack of administrative implementation and enforcement of central policies there may also be duplication and incomplete coordination between government policies and government schemes. In fact there may be duplication between centre and state ministries as well as several other agencies dealing with the same problem. For example, in India agriculture has been traditionally the responsibility of State Ministries of Agriculture. Over the years there have come into existence numerous agencies dealing with such specialized matters and problems as agricultural credit, community development, cottage industries, rural electrification and public works. Lack of coordination between these various agencies may give rise to duplication of effort, overfinance, conflicting rates and variety of terms of loans, inadequate scrutiny of applications and supervision of the utilization of the loan as well as delays in making funds available in time for the purposes for which they are sought and intended.¹⁰

It is probably no exaggeration to say that duplication of agencies, decentralization and lack of implementation are at the root of many of the administrative difficulties and deficiencies which hamper the development effort, not only in India but also in other parts of the underdeveloped world. It is not enough to draw up a plan for general economic development or for an increase in food production; it is not even enough for the planning commission to outline the steps which must be taken in order to bring about the desired results; nor do budgetary allocations offer any guarantee that additional facilities (e.g. irrigation) will actually be made available to and used by the cultivators in the field.¹¹ In the last analysis the

¹⁰ "Government schemes of agricultural credit in many respects are neither coordinated with one another nor with similar operations of cooperative institutions. For instance, both the Revenue and Agricultural Departments provide agricultural finance. Again, these agencies operate in areas served by cooperative institutions and advance loans for the very purpose of which cooperative agencies can and do advance loans at lower rates. . . There is thus duplication of agencies, duplication of finance and a variety of rates and terms of loans for different types of agricultural credit." *All India Rural Credit Survey*, Vol. II, Bombay 1954, p. 208.

¹¹ New storage reservoirs and irrigation facilities are rarely utilized fully during the initial stages of their existence. However, administrative duplication, lack of coordination and delays in implementation have also contributed to the widespread failure to make use of these costly social overhead investments. The situation was aptly analyzed by Mr. S. K. PATIL, former Minister of Irrigation and Power in reply to complaints about wastes involved in underutilization: "At

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effectiveness of any plan depends rather upon the implementation of decisions which must be binding on all legislative and administrative levels of central, state and local government.

Mobilization of Real Savings

A development plan has to indicate the available sources of (real) savings that are to be utilized for the implementation of the investment projects. Savings may consist of excess of tax receipts, profits of government enterprises and nationalized industries, loans from the public and small savings, export surpluses and foreign aid. The plan must make provisions for the effective mobilization of the country's actual and potential surplus. Such mobilization of surpluses has to take place not only in financial terms but also in terms of physical resources. In practice this calls for a coordination of tax and fiscal policies with appropriate price policies in public enterprises and the control of imports and exports in order to bring about the desired results. Here again the success or failure of the development plan depends upon the extent to which these policies are coordinated and actually implemented by appropriate administrative measures. Lack of coordination between the fiscal and financial policies of centre and state governments may lead to situations where the central government pursues a policy of budgetary surpluses while state governments are reluctant to raise additional resources through fresh taxation, pursue policies of deficit financing or use additional revenues for the financing of non-developmental expenditures. Under such conditions, the mobilization of real savings will be unsuccessful and the expected economic development will be defeated by shortfalls in investment, by deficit spending, inflationary pressures and balance of payment shortages and excessive dependence upon foreign capital. Instead of channelling

the top is the Planning Commission. . . The Planning Commission plans. But even beyond planning they must also supervise. . . After the Planning Commission comes my Ministry of Irrigation and Power. Then comes the Ministry of Food and Agriculture. . . Then there are the agricultural ministries in the States. They are lords or monarchs by themselves. They naturally say, agriculture is, after all, a State subject. Who are you to tell us about our crop pattern and what we should do and should not do? . . . As if that was not enough the community projects also come in. The community projects are spreading far and wide; more and more villages are being brought into their orbit. Between all these five, sometimes there are lapses, there are omissions and sometimes loose ends are not tied together." *The Statesman* (New Delhi), March 28, 1958.

actual and potential savings into planned development projects, resources are diverted to non-developmental purposes and the production of consumers' goods of a less essential character.¹² Such failures to mobilize savings and the diversion of available resources to non-productive (non-developmental) purposes are at least to some extent matters of ineffective administration and enforcement.

Public (Government-Administered) Enterprise

Unlike the nationalized industries in England, France and Italy public enterprises in the underdeveloped world are more often than not important instruments of the planning effort. They are designed to serve one primary purpose: to get the generally desired process of industrialization under way by laying the foundation for the development of heavy industries. Investments in public enterprises, such as steel, river valley development projects, fertilizers, transport, communication and machine tools absorb a major proportion of total planned investment in many underdeveloped countries. Enterprises of this sort are expected to provide the bulk of total industrial employment and to act as generators of widespread economic growth. Their selection and location is often planned with a view to promoting balanced economic development in different regions of the country, and to provide the economic basis for the country's defence.

The organization of public enterprises, their management and control and their internal managerial policies raise administrative issues of considerable importance. State owned enterprises may be attached to government departments and operated in the same fashion as ordnance factories. Alternatively they could be organized along the British model as public corporations with considerable independence but responsible for periodic accounting and subject

¹² In India, the imports of materials chiefly for the manufacture of consumers' goods showed a threefold rise between 1956 and 1957. This increase of consumption at the expense of capital formation played a major role in the crisis of the Second Five Year Plan and its ultimate "rephasing" or cut-back. More recently a committee of the Congress Parliamentary Party is reported to have found that almost all the additional taxes raised during the last few years were used up by increases in non-developmental expenditures; the Committee recommended the immediate stoppage of recruitment of administrative personnel for non-development purposes for a period of one year. *The Hindu Weekly Review* (Madras), November 30, 1959, p. 4.

to parliamentary discussion and review. Or they could be established as separate concerns but subject to government management and operation.¹³ In each of these instances there arises the practical problem of how to combine managerial autonomy with social control. While managerial efficiency demands a high degree of independence, the objective of industrialization and balanced economic growth will call for social control. The dilemma results from the fact that the managerial personnel of these companies is likely to be either identical with or dominated by senior civil service officers, a state of affairs which may make the autonomy of public enterprise a fiction. Underdeveloped countries are likely to suffer from a general shortage of competent managerial personnel and any rapid expansion of the managerial bureaucracy of public enterprise is bound to reduce the reservoir of available scarce managerial skill.¹⁴ The special position of the managerial personnel and various obstacles to making the operation of public enterprises truly public and fully accountable permit the development of various inefficiencies and wastes which may emerge only with considerable delays and for which responsibility can be conveniently shifted to the officials of ministries and the informal influence exerted by senior officials over their operation.

We cannot discuss here the details of the management and administration of public enterprises. Nor can we enter into an analysis of the price and profit policies of such enterprises. One thing, however, seems to be certain: These policies are likely to differ from those of private enterprise. As pointed out above, public enterprises are instruments of the general planning effort and are designed to accelerate the process of industrialization. To insist that they be managed with a view to maximizing profits under all circumstances would be evidence of a lack of understanding of the broader social benefits bound up with such investments. In fact, public price policies may vary from setting prices below costs in cases of social overhead investments with important social returns or "external eco-

¹³ G. B. Baldwin, "Public Enterprise in India", *Pacific Affairs*, xxx, March 1957, p. 10. See also B. W. Lewis, *British Planning and Nationalization*, New York 1952, and M. Einaudi, M. Bye and E. Rossi, *Nationalization in France and Italy*, Ithaca 1955.

¹⁴ J. J. Spengler, *op. cit.*, pp. 484-86. In order to meet the shortage of managerial personnel the Indian Planning Commission suggested the setting up of a special Industrial Management Civil Service. See Government of India, *Second Five Year Plan*, New Delhi, 1956, pp. 136-37.

nomies" (or decreasing costs industries) to the use of prices as a means of indirect taxation in cases of goods that are scarce or services whose uses should be discouraged in accordance with the purposes of the general plan. Indeed there is no reason why pricing in publicly owned enterprises should not be used to produce a share of the nation's real savings required for future economic growth.

Two additional problems partly related to public administration and public enterprises cannot be discussed within the context of the present article: the tendency to establish state-owned enterprises where governmental controls over privately owned enterprises might turn out to be equally if not more effective and the maintenance of a public sector which serves "as a public pound of varying contents into which sick enterprises are cast but out of which, whenever possible, the profitable ones are retrieved."¹⁵

IV. ADMINISTRATION AND AGRARIAN REFORMS

This is not the place to belabour the point that agricultural development must be an integral part of any national development effort. Without higher farm output it will be impossible to meet the increasing requirements for foodstuffs and raw materials and to prepare the way for the large-scale release of the rural labour force which the industrialization process calls for.

The strategic significance of public administration in connection with agrarian reform can be fully appreciated only against the background of the agrarian structure of most underdeveloped countries. Despite or perhaps because of foreign investments and Western penetration¹⁶ extending over several decades many of these economies have remained predominantly agrarian with up to 80 percent of the total population earning their livelihood in rural areas. The economic, social and political structure of these agricultural economies is such as to make any transition to modern agriculture a matter of socio-economic reforms. However, despite the enactment of a variety of legislative reforms backward methods of farming and agrarian apathy and despair have continued to be key obstacles to rural development. Before indicating the role of public administration in this connection, it may be worthwhile to set forth briefly some of the

¹⁵ Einaudi *et al.*, *op. cit.*, p. 6 and pp. 230-31.

¹⁶ Including the infiltration of Chinese merchants and Hindu bankers in several countries of South-East Asia.

salient features of the economic and social structure of these agrarian economies.¹⁷

The bulk of the rural population in the underdeveloped world earn their livelihood not as independent farmers or landowners but as tenants, share-croppers and landless workers. Holdings are frequently uneconomically small and fragmented. Methods of production have not changed significantly during the last decades or centuries; implements and techniques are in many instances those which have been in use for hundreds of years. Indeed the share-cropping system affects adversely any incentive which cultivators would otherwise have to improve methods of production and to increase output. Moreover, the cultivators' knowledge and financial ability to make use of modern techniques of intensive cultivation is limited. Agricultural credit is available, if at all, only from professional and local moneylenders at exorbitant interest rates.¹⁸ Tenants are burdened with high rents which may amount to up to 50 to 60 percent of the total crop under certain conditions. Widespread poverty and a steady rise of the rural population account for unsanitary living conditions and increasing congestion in overcrowded villages where housing sites are hard to come by and are prohibitively expensive.

Under these circumstances, it is understandable that farm policies and particularly various measures of land reform designed to increase agricultural output play an important role in the economic plans of many underdeveloped countries. Among these measures are tenancy reforms (such as the restriction of share-cropping tenancy, the transfer of land to the cultivator and the fixing of reasonable rents), schemes for the intensification of cultivation, promotion of agricultural extension work, provision of credit for productive purposes (such as the acquisition of fertilizers, improved seeds and cattle and the regulation and control of unorganized money lending), consolidation of fragmented holdings, the establishment of ceilings for the maximum size of holdings, the elimination of intermediaries

¹⁷ For a detailed and documented analysis of the defects of the agrarian structure in underdeveloped countries see United Nations, *Land Reform*, New York 1951; see also E. H. Jacoby, *Agrarian Unrest in Southeast Asia*, Bombay 1961.

¹⁸ In India, professional and indigenous (local) moneylenders provide almost 75 per cent of the total agricultural credit whereas cooperatives and commercial banks provide only 7 percent. See Reserve Bank of India, *Bulletin*, August 1958, p. 900.

who serve as revenue collectors, the promotion of cottage industries, cooperative farming and marketing schemes; the reclamation and disposal of government waste land to landless and backward communities for agricultural land and housing sites; irrigation and flood control schemes; the distribution of water to various holdings; the assessment of water charges and general development projects designed to achieve some measure of rural community and village reconstruction.

The formulation and legislative enactment of these reform measures is at best only the first step. The second step is their implementation and this in turn depends upon the competence and quality of the administrative regional and local machinery which puts into practice the policies enacted by central and state governments. Indeed there is not a single agricultural reform measure which does not depend for its implementation upon an administrative bureaucracy that applies the measures adopted at the centre. Such implementation calls for decision-making all along the line of the entire administrative structure. Traditionally the economist tends to consider these problems of implementation as technical issues and to relegate them to the political scientist or the public administrator. And yet upon the manner in which these agrarian reform measures are implemented in the underdeveloped world may well depend the ultimate success of the whole development effort. To ignore this relationship is to ignore one of the most important variables in the entire development process. Output and productivity are not simply a function of investment but depend clearly upon the existence and the quality of the administrative machinery required to implement the economic policies which the process of national economic planning calls for. Indeed, closer investigation and familiarity with the details of the administrative process particularly at the regional (district) and local (village) level make it appear that these administrative echelons are not equipped to implement the economic development programmes. They may have been, and probably still are effective collectors of land and other revenues but they seem to be ill-adapted to, if not actually unsuited for promoting economic development. In this sense we may speak of local administration at the same time as a strategic and a limiting factor of economic development.¹⁹

¹⁹ We mention here only in passing that proper implementation of land reform legislation and agricultural improvement schemes is an issue which may

In attempting to substantiate the foregoing proposition we shall make use of data and cases illustrating certain quantitative and qualitative defects of India's district and local administration. By singling out India in this fashion we do not intend to imply for a moment that India's district and local administrative machinery is particularly maladapted to implement the present development effort. On the contrary, India has perhaps the most elaborate system of local and district administration of all the countries of the underdeveloped world. Nor do we wish to have the following discussion regarded as a personal criticism of local administrators. We are concerned with a *system* of administration not with individual administrators. As one of the oldest civilizations with an outspoken autocratic political past (whether under her own political leadership or that of the Afghan Chiefs, the Mughul Rulers²⁰ or under English colonial administration) India offers a particularly good example of some of the difficulties which a district and local system of administration originally designed to collect revenues and to perform police and judicial functions experiences when it is suddenly called upon to implement measures of land reform and agricultural improvement. For this reason we feel that the following discussion of India's conditions may well have a general significance for an understanding of the restraining effects which district and local administration may have on the development and planning effort in other parts of the underdeveloped world.

Quantitative Deficiencies

It is not generally realized that economic underdevelopment goes hand in hand with "underadministration". Relatively speaking the scope of public administration in an underdeveloped area tends to be smaller than in a developed country. Thus it can be

mean the difference between life or starvation (and even death) for a rural population whose expectations have been raised by the achievement of independence or by a successful upheaval against internal domination. To ignore these issues or to permit them to be mismanaged through neglect will not only defeat the planning effort but is bound to undermine whatever good will and confidence the rural population may harbour toward their new political regimes.

²⁰ See W. H. Moreland, *The Agrarian System of Moslem India*, Allahabad, Central Book Depot, 1929, esp. chs. IV and VI and W. H. Moreland, "The Revenue System of the Mughul Empire," *The Cambridge History of India*, vol. IV, Delhi, S. Chand and Co., 1957, pp. 449-75.

shown that even when the ratio of their current governmental expenditures to Gross National Product is about as high as in developed countries, the ratio of employees in public administration to total population has been much lower than in developed countries.²¹ Underadministration means not merely the absence or limited scope of a variety of governmental services which are taken for granted in all economically advanced countries such as the construction of roads, the maintenance of public health services and the provision of primary educational facilities. Even the collection of revenues and the maintenance of internal security may be limited to only some of the more accessible parts of an underdeveloped area. It is true, Western penetration and particularly colonial domination brought with it some kind of political integration and an expansion of the administrative apparatus. But even where a colonial administration put an end to the political despotism of local rulers, the colonial administrative machinery was geared to the interests of the colonial power and paid relatively little attention to balanced economic development.²²

Any systematic development effort places an additional burden upon the existing administrative machinery and personnel who in the past have served primarily as collectors of revenues, keepers of records, policemen and perhaps as magistrates in criminal cases. The implementation of agricultural policies and particularly land reform measures have the effect of increasing the scope and complexity of district and local government without correspondingly increasing the administrative personnel.²³ The increasing number of

²¹ J. J. Spengler, *op. cit.*, p. 479. "In most Latin American countries public administration employees constitute only 1-2 percent of the population; the comparable figure for Egypt is 2.2 percent, that for the United Kingdom 6 percent. In Nigeria in 1957 there were but 46,000 men and women in the Federal Public Service to serve about 32 million inhabitants." *Ibid.*, pp. 479-80.

²² For an account of the administrative impact of England's colonial rule in India by an English member of the Indian Civil Service, see P. S. Griffiths, *The British Impact on India*, London 1952, and *Modern India*, London 1957, Ch. 4.

²³ Detailed studies of district and local administration in India estimate that while administrative work has increased three or fourfold due to the need to implement various land reforms and agricultural improvement measures "staff has been reduced in many offices at the subdivisional and taluka offices due to the retrenchment policy of the government. . .". N. B. Desai, *Report on the Administrative Survey of the Surat District*, Bombay 1958, p. 132. (The Taluka is the intermediate administrative unit between the district collector and the village headman or [panchayat] village committee.)

responsibilities of the district officer are reflected in the number of departments set up within the collectorate. To the traditional divisions dealing with revenue collection, police duties, judicial functions and registration the following specialized departments have been added: Agriculture and Land Reform, Cooperatives, Veterinary, Forestry Department, Public Works, Public Health and Education, not to mention Community Projects and National Extension Blocks which came into existence in the talukas.²⁴ In the Surat District this diversity of tasks had to be handled by a clerical establishment consisting of only 39 persons. The inadequacy of this staff finds expression in the length of time required to dispose of pending cases. A census of cases before the collector (in 1955) revealed that of a total of 30,347 pending cases 12,600 were pending for more than 6 months; more than 9,000 cases were pending for more than a year.²⁵

It would lead us too far afield to pursue these quantitative inadequacies into all their ramifications. Suffice it to say merely that overwork and overburdening of the district administrative machinery has far-reaching consequences for the performance of the administrative functions all along the chain of intermediate and village administration. It ties the district administrator to his desk and makes it impossible to carry out the traditional duties of inspection, supervision and touring. It is relevant in this connection that the great majority of taluka and village officials in India cannot be reached by telephone; therefore there must be personal supervision and inspection. Overwork leads to inadequate keeping of records and to insufficient instructions given to subordinate officials and heightens the general inefficiency of an administrative machinery, manned by subordinate clerks whose standard of performance and initiative has never been very high. Perfunctory performance of duties and discourtesy to the public is the answer of many overworked officials to their plight.

Excessive Bureaucratization

All bureaucracies seem to develop the tendency to proliferate their rules and to complicate their procedures rather than to simplify them as they expand under the impact of new tasks. This extension of bureaucratic controls cannot be said to be a unique characteristic

²⁴ For a complete account of the work load and responsibilities of the district administrators, see *ibid.*, pp. 21-24.

²⁵ *Ibid.*, p. 43.

of the administrative apparatus of underdeveloped countries. Nevertheless, while such bureaucratization is harmful under any circumstances, it is difficult to convey to anybody who has not lived in one of the economically less advanced countries an idea of the manner in which excessive bureaucratic controls hamstring and in some instances actually defeat the development effort.

India's regional and local bureaucracy is still tied to its colonial origin. As such it is highly centralized as far as the decision-making process is concerned and not open to adequate supervision. Accountability is not defined in a manner that determines specific individual responsibilities of the various echelons. Hence responsibility can be easily evaded by multiple reviews and cross-references in such a fashion that in the end "everybody is responsible for everything before anything is done."²⁶ The results of this excessive bureaucratization are administrative delays which at almost every step interfere with the implementation of general economic and agrarian reform measures.

Closely related to this excessive bureaucratization is the survival of old and the creation of new rules and standing orders designed to channel the administrative decision-making process and to keep it under some kind of supervision. Decisions that should be taken immediately, as for instance minor and major repairs of an irrigation tank, cannot be taken because tenders have to be called and other formalities must be fulfilled. Climatic conditions and emergencies of various kinds in a system of irrigation-agriculture dependent upon monsoons may call for immediate action and yet rules and procedures will stand in the way. Needless to add that such delays often result in substantial additional and avoidable costs. There may be and doubtless are valid reasons for many of these rules and yet from the perspective of the implementation of the development plan they can be described only as wasteful inasmuch as they absorb the time and energy of administrative officials and of the public. Examples of such wasteful delays could be quoted almost at random. They pervade the entire administrative machinery from the control of import licenses to the processing of a request for a refund from local revenue offices. The following cases may serve to illustrate this bureaucratization of rural administration :

²⁶ P. H. Appleby, *Re-examination of India's Administrative System*, Government of India, n.d., p. 7. See also W. R. Natu, *Public Administration and Economic Development*, Poona 1954, Gokhale Institute of Politics and Economics, pp. 11-15.

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A detailed survey of an auction sale of a plot of land measuring 50 × 60 feet and valued at Rupees 35.—, as part of the government's programme to consolidate scattered holdings, shows that the necessary correspondence to and from the village officers to the district collector had to pass through 50 stages before final disposal; it had to be referred to the district collector three times and it took 2½ years before the applicant could take possession of the land applied for.²⁷

Even the attempt to delegate power in matters of minor importance to local officers appears to be self-defeating as a result of changing price levels. Thus taluka officers (in Surat, Bombay) were given the power to sanction the sale of dead trees not exceeding in value Rupees 50.— (*sic*)—a decision which was formerly reserved to the district collector. As a result of a tenfold increase in the price of dead trees resulting from increasing scarcity as well as higher prices in general it now takes only a few trees to exceed the maximum limit of Rupees 50.— consequently the office of the district collector has again to sanction a great number of sales of dead trees.²⁸

While an effective system of administration seeks to share responsibility and to delegate functions to subordinate levels in the administrative structure²⁹ antiquated standing orders and an inadequate delineation of responsibilities and accountability seem to be working in the opposite direction in India. Prime Minister Nehru himself has commented on this situation without however indicating a practical solution :

"At occasions, I have looked into the Civil Service Rules. I was astonished how, in spite of impediments these rules put, the government has functioned. I cannot conceive how these rules can be wholly applicable to India today. The whole background and environment of independence requires a new approach to our problems. Unfortunately, we are all bound hand and foot with something which has no place today. We have to get rid of it."³⁰

Qualitative Defects

Even more serious in their over-all effects than quantitative deficiencies and administrative centralization are certain qualitative defects in district and local administration. By qualitative defects we have in mind several features of the administrative process which have their roots in the essentially hierarchical character of

²⁷ N. B. Desai, *op. cit.*, pp. 126-27 and pp. 297-300. See also p. 75 (para. 198). For an account of administrative delays in the payment to and receipt of money from revenue offices, see *ibid.*, pp. 82-83.

²⁸ *Ibid.*, p. 127.

²⁹ See on this point, United Nations, *Standards and Techniques of Public Administration with Special Reference to Technical Assistance of Underdeveloped Countries*, New York 1951, p. 10.

³⁰ Quoted from N. B. Desai, *op. cit.*, p. 81.

interpersonal and intergroup relations inherent in the socio-cultural structure of many underdeveloped countries. While such relationships in general do not preclude a certain paternalism and some accessibility between the lower and the ruling groups, they undermine the process of public administration.³¹ Indeed even where elements of the rule of law and of popular elections have been introduced, the relationship between the administrative "elite" and the "underlying" rural population consisting of largely illiterate, poor and dependent share-croppers, landless workers, tenants and small owners may remain essentially authoritarian if not outright despotic.

In India the personnel of the regional (district) and even of the village administration is, with few exceptions, composed of an appointed or hereditary bureaucracy. Since they are not politically responsible to the people of their district and since the lines of responsibility and accountability toward their superiors in the administrative hierarchy are not always well defined they are able to exercise almost absolute power over the local population. This holds true in general and applies, of course, also to a variety of administrative tasks connected with agricultural improvements and land reform policies. As pointed out in the preceding sections, the district collector and his subdivisional officers are the agencies that come into direct contact with the public. He (or his subordinates) receive, process and make final decisions on each individual case. The collector or his deputies implement the economic policies formulated and passed by the state and central governments. While they cannot deal with requests and applications in just any manner they can deal with them in a perfunctory manner. They can show complete lack of interest; they can delay an application or can shuffle it back and forth in a mechanical manner between district headquarters and village authorities; they can show favouritism and be responsive to bribes; the individual administrator can be unwilling to handle a case altogether or he can threaten or cajole with impunity. In short, he can act in an arbitrary fashion, he can be callous and lack any human concern for the individual applicant and show not the slightest initiative in implementing the

³¹ "Where caste, color, race, creed or party membership confer upon, or deny to, whole sections of the population opportunities to share in the benefits bestowed by the State, or where a limited segment of society is able to maintain for itself the privilege of public service... public administration will weaken in the long run". United Nations, *op. cit.*, pp. 9-10.

objectives of the plan.³² If his practically absolute power does not corrupt him or his subordinates, the fact that he is continuously overburdened by new tasks for which his administrative apparatus is not equipped will make him act without commitment and personal involvement. Moreover, as a result of overwork, the district collector may neglect his duties of supervision, auditing and inspection which will make his subordinates more arbitrary in their treatment of their powerless "subjects" and himself less aware of the actual functioning of local government.

It is these qualitative defects of the district and local administrative machinery which, we believe, are responsible, more than any other single factor, for the widespread failure to implement the agricultural reform legislation which is part of the plan, and to evoke the necessary popular participation, initiative and enthusiasm without which no planning effort can be successful in the long run.

In support of this thesis we shall present and analyze three typical cases which illustrate the manner in which administrative defects at the district and intermediate (taluka) level are defeating legislative objectives and are causing distrust and disaffection among the people upon whose cooperation ultimately depends the success of the whole development effort. The data are taken from Desai's case study.

One of the objectives of India's First and Second Five Year Plans is the encouragement of cottage industries and the emancipation of the backward castes (or communities) from their century old disabilities within Hindu culture. On February 28, 1951 a member of a so-called backward community (head of a family of 18 members) applied to the collector (district administration) for permission to put up a cottage industry in the form of a brick kiln for his personal use and for sale. The application is received and returned to the village officer for affixing of a (revenue) stamp, and advice. Permission is granted for one year on April 25, 1951, with request for revenue assessment to be charged against the applicant. On May, 3, 1951 the village official informs the Mamlatdar (taluka) that the applicant has already started work and requests an order to stop the work and levy a fine for unauthorized use of the land. The Deputy Collector who is appraised of the situation levies a fine of Rs. 175 although his subordinate

³² He may fail to bring the provisions of legislation concerning land reforms and revenues to the attention of the people in his district; he may fail to publicize the rules and regulations concerning procedures to be followed in the acquisition of land and consolidation of holdings or the availability of funds for the intensification of land use; he may refuse to supply copies of such rules "even when asked for on payment of fees. . . In spite of repeated government orders, the Collector's or Deputy Collector's offices issue orders concerning village people in English instead of (the) regional language". Desai, *op. cit.*, p. 120.

(Mamlatdar) recommended a fine of Rs. 25. (According to the rule concerning the calculation of fines the maximum fine is ten times the assessment of the land used. Since the applicant had used only 60 square yards at an assessed value of 2 pies the maximum fine should have been 10 times 120 pies or Rs. 6.40.) On September 6, 1951, the Deputy Collector sanctions the assessment and recovery of the fine. On November 1, 1951 and again on March 31, 1952 the applicant states that he applied for the permission to put up a brick kiln on February 28, 1951 and, as he did not receive permission soon, he got the bricks baked. He also points out that he is unable to maintain his family on the land he owned (756 sq. yards) and that he had therefore decided to start his cottage industry. Moreover, he indicated that he was under obligation to repay a previous land improvement loan, and that this (1951) was a scarcity year. He requested that these facts be taken into consideration and asked the collector not to recover the heavy fine of Rs. 175 imposed upon him. Despite these representations and despite a report from the village officer confirming that the financial condition of the applicant was poor the Mamlatdar directs the village officer to explain to the applicant that if he fails to pay the fine and the assessment (for the brick kiln), collection will take place under Land Revenues Rules by attachment of his property. The applicant states that he will pay after he gets a reply from the Collector (District Administrator). Upon receipt of this statement the Mamlatdar directs the village officer to recover the amount within 2 days. Two months later the village officer reports that the amount of the fine and the assessment have been recovered and credited.³³

The case highlights the negative and indeed often self-defeating role of a system of public administration which is not sufficiently geared to the implementation of governmental planning. As we have pointed out district and local administration in India was and partly still is concerned primarily with the collection of revenues. Small wonder therefore that the first and last act of the district administrator's office is the assessment and collection of the new tax and the fine. It is noteworthy that the permission to operate a cottage industry calls forth an immediate reassessment of the new land use and is granted only for a limited period (apparently for revenue purposes). Under a system of incentive taxation the establishment of a cottage industry in harmony with government objectives would be made tax exempt at least during a transition period of five to ten years.³⁴ However, the most important obstacle to rural reconstruc-

³³ *Ibid.*, pp. 50-52.

³⁴ It may be noted in passing that the use of private land for non-agricultural purposes depends upon and is preceded by a costly and time-consuming process of red tape. In the end the granting of the permission depends upon the opinion and advice of the local village officer, that is to say the chances of the applicant depend in the last analysis upon whether or not he can count on the good will of the village headman.

tion stems from the indifference, the perfunctory handling of the application and the professional incompetence of the administrative staff. Indifference to government objectives on the part of the village officer and/or his lack of good will toward the applicant and the perfunctory handling of the case by the entire district machinery from Collector to Deputy Collector and Mamlatdar are evident in the report of "unauthorized use" of 60 sq. yards of land for a cottage industry a few days prior to the granting of the final permission to do so. Needless to say that the victims of such administrative decisions are not only poor but ignorant and illiterate and hence without any protection or recourse. Desai concludes his account of this case with the following understatement: "The kind of callousness noticeable in the offices of the Collector, the Deputy Collector and the Mamlatdar in the handling of this case would hardly be expected to create confidence among the people in the government agencies to whom the work of rural reconstruction is being entrusted."³⁵

Two additional cases are taken from the adjudication of tenancy disputes under the Bombay Tenancy Act of 1948. The principal objectives of this Act were to fix maximum rents, to protect tenants against eviction, to facilitate the purchase of land by tenants and to limit the transfer of land from old tenants to new ones. At the same time, however, the act authorized landlords whose total holdings were less than 50 acres to "resume" possession and cultivation of land if they needed the land to bring their own cultivation up to 50 acres. The Act further stipulated that tenants could terminate their tenancy by "voluntary" surrender of their land to the landlord. Tenants and landlords had to institute legal proceedings for the fixation of rents and the resumption of cultivation respectively. From the records available in the Deputy Collectors Office (Navasari Subdivision) it appears that while only 74 suits were instituted by the tenants against landlords in two years not less than 1172 suits were brought by landlords against tenants.³⁶ The administrative disposal of two of these cases shows that legislative reform measures designed to stabilize tenancy by protecting tenants against high rents and eviction and to facilitate the purchase of land by tenants may be handled in such a way that they have the exact opposite effect quite apart from the fact that in the process people are harassed and forced to

³⁵ Desai, *op. cit.*, p. 52.

³⁶ *Ibid.*, pp. 93/94.

waste money and time in a futile attempt to comply with arbitrary procedures administered by a distant bureaucracy.

The first of these cases taken from the records of the Deputy Collector (Navsari) concerns the application by a tenant for the fixation of reasonable rent. Within two weeks of the filing of this application the landlord asks for postponement of the case and files a separate application for possession of the land. Case is adjourned. After two months the tenant produces a statement showing the rental value of the land but is unable to produce any witness. The landlord refuses to accept the fixing of the rent in cash (preferring a settlement in the form of a share of the crop) and offers to produce his own witness on the next date of hearing. Case adjourned. On the date of the next hearing the case is dismissed due to the absence of the tenant. When the tenant submits an appeal to the collector against the dismissal of his suit, the assistant collector rejects the appeal on the ground that the proper remedy was "not to go in for appeal" but to institute fresh proceedings.³⁷

The second case concerns the suit of a landlord for possession of his land on the ground of non-payment of rent. The record of the proceedings in the court of Mahalkari shows the same delaying tactics by both sides as well as four administrative postponements due to a casual leave of the court (*sic*) or the court's preoccupation with other matters. The case is finally dismissed when the plaintiff (landlord) appears half an hour late due to an irregularity of the transport service. When the plaintiff asks to have his suit reopened he is informed that there is no legal provision under which he can claim reinstatement.

The record speaks for itself. What needs perhaps to be emphasized is the fact that in both cases the parties had completed the presentation of their respective cases and the court could have decided in the light of the available evidence instead of dismissing both suits and the appeals. Mr. Desai comments: "It will be seen from this typical case how people are harassed, how many times they have to go to the courts, and also how their time and money are wasted. If the officers continue to behave like rulers instead of as servants, it will be difficult for them to win the confidence of the people and to induce them to participate in any development activities."³⁸ Administrative procedures of this sort play havoc with the objectives of agrarian reform. In fact, a detailed study of the Bombay Tenancy Act comes to the conclusion that for all practical purposes the Act does not exist. Rents have remained at their former levels. Within five years 25 percent of the tenants had been replaced by new ones; 27 percent of the area (in a sample of 2835 cases involving 11,138 acres) had passed to the owners and only 3 percent of

³⁷ *Ibid.*, p. 95.

³⁸ *Ibid.*, p. 96.

the tenant cultivated area had passed to the tenants. Landowners had not found it necessary even to manoeuvre in order to evade the law. In view of their local influence it was obviously not very difficult for them to induce "voluntary" resignation from tenants or change of tenants at their will.³⁹

V. CONCLUSION

Public Administration and the Theory of Economic Development

A quantitatively inadequate or qualitatively defective system of public administration will not merely retard the development process but may defeat the entire development effort in an even more decisive manner than any temporary shortage of capital or inadequate technical skills or an unfavourable monsoon. The attainment of the objectives of the plan depends upon the existence of a well-functioning decision-making machinery at all four levels: Central-State-District-Local. Without such an apparatus the planning effort can neither be coordinated nor implemented. In fact, the process of economic development may never become cumulative and self-sustaining because the necessary economic, social and political reforms are not followed through.

Most important in this context are what we called qualitative defects which lend daily support to a deep-seated and widespread suspicion and distrust of government in many underdeveloped countries. Qualitative defects such as authoritarian indifference, perfunctory performance and general high-handedness are particularly harmful because they obstruct and defeat the much needed mobilization of popular initiative and participation. They prevent large sections of the population from identifying themselves with the development effort. An autocratic, perfunctory or corrupt system of administration not only breeds apathy and distrust but widens the gap between the government and the governed. Indeed "corruption in government [and we may add high-handedness in administration] is pernicious not so much because of its wastefulness but because it discredits government, and gives it the air of injustice

³⁹ W. M. Dandekar and G. K. Khudanpur, *Working of Bombay Tenancy Act 1948. Report of an Investigation*, Poona 1957, Gokhale Institute of Politics and Economics, pp. 187, 128 and 101. See also Daniel Thorner, "Land Reform in Bombay: An Agonizing Appraisal", *Economic Weekly*, Annual Number, January 1958, pp. 117-19; and Balraj Puri, "Land Reforms in Delhi", *Economic Weekly*, March 14, 1959, pp. 385-88.

which causes those whom it rules to withhold affection and loyalty. In consequence, the 'political gap', the estrangement between rulers and ruled is widened, and no political society can emerge."⁴⁰ This is particularly serious in some of the new states where the primacy of loyalties to family, extended kinship organization and linguistic sub-cultures still stand in the way of national and political integration. In societies where kinship, caste, colour or party membership are sources of special privileges and disabilities the failure to implement the plan may actually deepen the traditional cleavages between factions and thus weaken rather than strengthen national unity. In short, a quantitatively deficient and qualitatively defective system of administration at the same time defeats the development effort and undermines the success of the nation-building process which is a corollary of economic growth in the underdeveloped world.

Our analysis confirms the views of those economists and social scientists who have long argued that economic development presupposes institutional and social changes. By selecting and focussing attention on such variables as investments, technology, savings or foreign aid economic theory may actually help to maintain institutional arrangements which have blocked economic growth in the past and may unwittingly lend support to economic policies which are beyond the organizational capacity and ability of the existing administrative machinery. The resulting delays and failures in the attainment of development goals are not only a costly and futile use of scarce resources but may actually endanger the development effort. Instead of attributing the slowness or insufficiency of economic growth to shortages of capital or inadequate foreign aid, it would be equally if not more realistic to consider the defects in public administration which defeat the implementation of the plan and reinforce prevailing attitudes of distrust and apathy as major obstacles to growth and development.

As a matter of fact, improvements in public administration may actually yield higher over-all returns than additional investments in specific industries. In so far as the productivity of capital investments, the mobilization of real savings and the response pattern of the people are dependent upon and vary according to the efficiency of public administration it is possible to argue that

⁴⁰ Edward Shils, "Old States, New Societies", *Encounter*, March 1959, pp. 35-36.

the latter occupies a key position in the development process. Indeed, the so-called marginal social productivity of additional investments may be substantial in the field of administrative reforms. Adequate investments in such reforms, if properly conceived and carried out may finally break the monotonous constancy of most ratios between input and output which have marked the stationary backwardness of the underdeveloped world. By enabling the economically less advanced countries to implement development measures, by effectively mobilizing their potential savings and by removing apathy and distrust and replacing it by initiative and participation, appropriate administrative reforms may well be the prerequisite of substantially lower capital-output ratios than have prevailed in the past. In short, improvements in the structure and efficiency of public administration are bound to give rise to more effective forms of cooperation and hence to new quantitative relationships and non-linear (i.e. jump like) increases in output—which is after all what economic development essentially amounts to.⁴¹

It would be misleading to foster the impression that the importance of administrative reforms has been totally ignored in the underdeveloped world. Problems of administrative coordination and decentralization in the existing state, regional and local administrative machinery are matters which are under discussion in many of the underdeveloped countries. However, it is not possible within the

⁴¹ Despite obvious differences in political organization, the lessons of Russia and China are not irrelevant in this connection. As early as 1932 Tawney showed (with reference to China) that the absence of an efficient system of administration had made it impossible for the government to win the confidence of the common man and suggested that the course of wisdom may be to concentrate governmental efforts on the elimination of the exploitation of the inhabitants by tax collectors, officials, moneylenders and landlords. (R. H. Tawney, *Land and Labor in China*, New York 1932, p. 172.) In 1956 it was already clear that the administrative efforts in China especially with regard to agriculture exceeded those of India. Thus, according to Indian expert observers the use of technically qualified extension workers in the field was three times the number of village level workers in India who, moreover, are not specialists but so-called multi-purpose workers. (Reserve Bank of India, *Bulletin*, November 1956, p. 1154.) The apparently successful mobilization of manpower in concentrated drives for the elimination of various pests, the collection of manure and the construction of dams by hundreds of thousands of people also testify to a concentration of administrative efforts on particular goals directly related to the development effort and the increase of output.

context of this article to enter into a detailed discussion of these administrative reforms.⁴²

It is important to emphasize in conclusion that the successful analysis of economic growth and development requires an inter-disciplinary effort. Specialized research and the construction of mathematical models may have its advantages as long as we are dealing with problems in a static socio-cultural environment. However, the study of economic dynamics and economic development in less advanced areas calls for a familiarity with different social structures and the interaction of their various components. In short, the scientific analysis of economic development requires conceptual frameworks which permit the consideration of institutional and political factors such as public administration, government, the power structure, apathy and distrust.

⁴² Of special interest in this connection are the administrative reforms recommended in India by the *Report of the Team for the Study of Community Projects and National Extension Service* (Balvantrai Metha Report, Planning Commission, 1957). According to these recommendations the States would be divided into administrative units in charge of all economic development work for an area that would be larger than that of traditional villages and smaller than that of the District Collector. The report aimed at decentralization of power whereby the government would divest itself of certain duties and responsibilities and "devolve" them on Regional Economic Councils (Panchayat Samitis) composed of elected members of village councils. However it is noteworthy and perhaps ominous that the first of the State laws setting up Regional Economic Councils (in Rajasthan, 1959) requires two-third majorities for decisions concerning such capital investments as the construction of wells, public streets, latrines, and new buildings. It is doubtful whether this will actually accelerate the development process. Insistence on near unanimity (short of the veto power) in development matters not only strengthens the conservative elements but may bring the whole process of development to a standstill. For a detailed analysis of the problems of Regional Economic Councils see P. K. Chaudhuri, "Decentralization or Delegation of Power: The Rajasthan Panchayat Samities and Zila Parishad Act, 1959", *Economic Weekly*, October 3, 1959, pp. 1365-69.

PART II

DEVELOPMENT PROJECTS: PROBLEMS
OF EVALUATION

V

RIVER VALLEY PROJECTS: THEIR DIRECT EFFECTS*

THE PRESENT essay advances a tentative framework for the analysis of the direct effects which the irrigation component of river valley projects may have on the structure of agriculture in underdeveloped countries. The focus of attention is on the impact of river valley projects within the context of the total development effort of which these projects are usually a part. In its quantitative aspects the analysis makes use of Indian data; in its broader methodological implications and qualitative aspects the analysis transcends particular cases and applies to other underdeveloped countries as well.

The term direct effects covers the repercussions which a perennial supply of water is likely to have on the structure of farm production in the area immediately affected by and adjacent to the project. In addition various indirect or secondary effects of river valley projects are reflected in changes in the structure of industries (including distribution) in a wider area and can be traced back to the changes in agricultural production. These direct and indirect effects of irrigation can be distinguished at least conceptually from the socio-cultural impact which river valley projects may have on world outlook and institutional arrangements. In the present essay, however, attention will be focussed on the direct effects of irrigation.

I

The strategic significance of irrigation in India's development effort derives from the fact that the average rainfall for most of India is low and subject to great variations. This inadequacy and unevenness of rainfall gives rise to recurrent crop failures in some areas and makes other regions desert areas. Indeed, India's whole development effort must be viewed against the background of four interrelated factors which define her present economic position: recurrent acute food shortages, extreme poverty of great masses of the population, rapid population growth, and unemployment as well as underemployment. Only the first factor needs to be illustrated here.

* Reprinted with permission from *Economic Development and Cultural Change*, Vol. VIII, No. 1, Oct. 1959, pp. 24-47.

Between 1948 and 1953 India imported 19.3 million tons of cereals. The average annual food shortage was 3.2 million tons. At an average cost of about Rs. 450 per ton the total cost and foreign exchange requirements due to food shortages would amount to Rs. 1.5 billion. In the absence of foreign loans (which may have to be serviced sooner or later), the prevention of general starvation and famines for large masses of the population depends upon the ability to increase the output of food. Moreover, recurrent shortfalls of food represent a continuous threat to the implementation of the industrialization effort upon which depends India's whole development plan and her ability to utilize her increasing idle manpower. It is of course true that the production of food can be increased either by improved techniques of production on land already under cultivation or by expanding the area under cultivation. India's special geographic and climatic situation, together with her rapidly increasing population, makes it imperative not to rely only on the improvement of agricultural techniques. Apart from the fact that India's success with improved techniques has been limited in the past (as judged by relatively stable yield figures), even further improvements of techniques (through greater use of fertilizer, farm equipment, and improved seeds) depend for their success upon an assured supply of water. The only dependable way of establishing a system of intensive agriculture as well as of extending the margin of extensive cultivation seems to be to provide areas which have a low and uneven rainfall with an assured water supply. This can be done only by storing the precipitation in catchment areas which have an abundant rainfall, especially in some of the higher altitudes and diverting this dependable supply of water through canals and distributaries to the areas with inadequate and variable rainfall. In short, what is required is the construction of major dams and reservoirs capable of storing and controlling the flow of important rivers and their tributaries. This is precisely what India has been trying to do under English rule as well as since Independence. In fact, this is what responsible statesmen in India seem to have been trying to do since time immemorial, to judge from the evidence of a vast network of irrigation works and inundation canals not only in the Indus valley and the region of the Jumna river but in South India as well.¹

¹ *Irrigation in India through the Ages*, Central Board of Irrigation and Power, Leaflet No. 7, New Delhi, 1954.

What are likely to be the effects of the shift from dry farming to irrigation farming in contemporary India? Any qualitative and quantitative investigation of the direct effects of the irrigation component of river valley projects must be based upon farm management data. For in the last analysis, only farm accounts and farm budgets are capable of disclosing with any degree of quantitative precision what shifts took place in input and output patterns as a result of a perennial supply of water made available by the irrigation projects. We cannot hope that our data, though derived from farm management studies, are complete and always based upon accurate observation. There are inevitable gaps in our information about farm management, particularly in an underdeveloped country like India, and it seems to be impossible to estimate the degree of the possible error in the observations upon which the respective studies are based.²

However, while it seems to be impossible to estimate the degree of possible error, we believe that our data err in the direction of an understatement of the possible effects of irrigation farming. This is due to the fact that they relate to cases and conditions in which, for the most part, there was no deliberate plan for many of the subsidiary investments and administrative steps which must be taken in order to make the fullest possible use of the water resources made available by the development project. On the whole, perhaps with the exception of some projects in the Punjab, the policy pursued both under the British regime and in more recent years was that of relative *laissez-faire*. It was up to the individual cultivator to make the necessary adaptation to the new techniques of agriculture called for by the perennial supply of water. If we consider that the cultivators were often ignorant and suspicious, at least during the initial stages of the introduction of the new method of cultivation called for by irrigation, and that they were usually without adequate funds required for such subsidiary investments as the purchase of fertilizers, improved seeds, more and better foodstuffs

² Having made these general reservations we wish to point out that farm management studies have a long history in India. The Board of Economic Inquiry of the Economic and Statistical Organization of the Government of the Punjab has conducted village and farm management studies for more than thirty years. The Gokhale Institute for Politics and Economics (Poona) published its first farm survey in 1933, and the Economic and Statistical Organization of the (Central) Department of Agriculture has published a series of up-to-date farm management studies for different states.

for draft animals used for longer periods of time, it is reasonable to assume that our data are not fully representative of the total effects which a shift to irrigation farming may achieve. Against this, the economist is likely to raise the possibility of diminishing returns from additional irrigation projects. It could be argued that future irrigation projects are bound to be less productive and more costly than those that have been built in the past. Ultimately the answer to his question depends not only upon an assessment of the irrigation potential (i.e., water and land resources) as compared with the estimated food requirements of a rising population, but also upon the ability to take into consideration the effects of evolving improvements of farm techniques. Diminishing returns is a concept that comes to us from the static framework of classical and neo-classical economics. Dynamic change and technological improvements are precisely the factors which have counteracted the static phenomenon of diminishing returns in the past. In short, static economics must not be permitted to play havoc with the assessment of dynamic growth and development.

II

It is possible to view the whole process of economic and social change from the perspective of a gradual transition from subsistence farming to the production of cash crops. This is ultimately the most important economic and social change that seems to happen in response to the provision of an assured supply of water. For reasons of exposition, however, we have found it desirable to discuss first the changes in the structure of farm production which prepare the ground for the transition from subsistence farming to cash crops.

A. Changes in the Structure of Agricultural Production

Under the climatic conditions of the sub-continent of India, many crops respond to early planting, provided that there is an adequate supply of water. Hence with a perennial supply of water sowing and planting can start earlier than in areas dependent on rainfall. In fact, irrigation in the tropics makes it possible to plant and grow two or even three crops of rice. Many other crops respond to earlier planting. For instance, cotton usually cannot be grown before June; with irrigation planting can start in April. Similarly, the shift to sugar-cane has brought about far-reaching changes in

production methods in areas which had no perennial supply of water before. These changes have had the effect of upsetting established patterns of activities. In an Indian village, "agricultural skill is passed on from father to son. Through time and experience the peasants develop a rhythm of production throughout the agricultural cycle in which each participant has a certain task to perform and each operation is allocated a certain date and time. The cultivation of sugar-cane upset this established rhythm and it took time and thought before the new crop could be incorporated into the pattern of activities."³

New crop patterns: More important than the changes in the timing of sowing and harvesting with its attendant modifications of traditional activities and village life is the effect of irrigation on crop patterns. An assured availability of water makes it less risky and more profitable to switch from dry food crops to crops which require more water than rainfall makes available. These are the better quality and higher priced crops such as sugar-cane, wheat, paddy, and fodder, as well as garden produce. Whereas the unirrigated farm tends to concentrate overwhelmingly on the production of food crops which in India are largely consumed locally or within the cultivator's own family, the irrigated farm can be shown to concentrate on the more valuable food crops for sale (such as rice, wheat, and sugar-cane) and may also turn to fibre crops and fodder (the latter reflecting greater needs for more intensively used draft animals). Table 1 shows this change in crop pattern in the Punjab.

TABLE 1

PERCENTAGE OF CROPS GROWN IN IRRIGATED AND
UNIRRIGATED AREAS, PUNJAB, 1954-55⁴

<i>Crop</i>	<i>Irrigated</i>	<i>Unirrigated</i>
Food crops	55	94
Oilseed crops	2	1
Fibre crops	20	—
Fodder crops	23	5

³ T. S. Trent, "The Nature and Significance of Socio-Economic Studies", *Mysore Sakkare*, October 1955.

⁴ *Studies in Economics of Farm Management in Punjab*, Report for the Year 1954-1955. The Directorate of Economics and Statistics, Ministry of Food and Agriculture, Delhi, 1957, p. 135.

The data are significant inasmuch as they show a greater diversification of crops in irrigated areas as compared to the almost complete concentration on food crops in unirrigated areas. Which of the more remunerative cash crops will be chosen seems to depend upon many factors which can be isolated only by more detailed studies of agricultural location. No single factor, such as climatic or soil conditions, proximity to markets or processing facilities, or traditional skills in the area, is probably sufficient to account for the actual selection of the cash crop. However, once an area has concentrated on a particular crop and the people of the area have acquired the necessary skills, techniques, and equipment needed for the cultivation and processing of the crop, there seems to be a tendency for everybody to fall in line with this pattern. The area tends to become a sugar-cane area or a paddy producing region or a paddy and wheat producing region, as the case may be. The establishment of a sugar factory or a cotton mill may exert a powerful influence on the crop pattern of the entire surrounding area.

As a matter of fact, whereas the changing and uncertain seasonal conditions prior to irrigation usually call for a certain variety of crops, the availability of water may make it profitable to abandon diversification in favour of one or the other monoculture. Sugar factories favour the specialization on sugar-cane by the cultivators even in the adjacent areas. In the Mettur-Tanjore area, which is particularly well suited for the cultivation of paddy, the area under paddy has gone up from 38.3 percent of the total cultivated area in 1931 to 80.8 percent in 1951; all other crops show declines, while some of the crops such as spices, vegetables, fruits, industrial and miscellaneous crops have almost completely disappeared.⁵ Nor have there been any attempts to experiment with other commercial or industrial crops such as cotton.

B. From Subsistence Farming to Cash Crops

The concentration on higher valued crops sets in motion what is probably the most significant long-run influence of river valley projects on the structure of agriculture: the gradual elimination of subsistence farming and its integration into a wider regional and

⁵ S. Krishnamurthi, *Pilot Survey of the Influences of the Mettur Irrigation and Hydro-Electric Project on Agriculture and Agro-Industries in Pattukkottai Taluk of the Tanjore District*, Planning Commission Research Programmes Committee, New Delhi, 1948, mimeographed.

national market. The final outcome of this process is a monetization of exchanges and a commercialization of agriculture which makes the latter dependent upon urban markets and urban supplies of finished products.

The extent of this monetization and commercialization can be demonstrated in a variety of ways. For example, the proportion of income received in the form of money and the expenses met by monetary payments tend to increase in wet farming areas as compared to dry areas. Twenty years after the introduction of irrigation in the Godavari and Pravara canal area (Bombay State), it was found that the disposal of important crops differed radically on irrigated farms from that of unirrigated farms. Whereas irrigated farms sold 70 percent of their total crop (measured in value) in 1938/39, the corresponding percentage for totally dry farms was 34.5 percent. The difference is even more striking if expressed in terms of absolute monetary figures. Whereas the total annual receipts of the average dry farmer for produce sold were only about Rs. 200, farmers belonging to the irrigated areas showed a total money receipt of Rs. 1,500 (with Rs. 3,000 in the most intensively cultivated irrigated areas).⁶

This relative increase of the importance of cash sales has the further effect of replacing, at least in part, payments formerly made in kind (e.g., rent, farm labour, village artisans, and village functionaries) by monetary payments. The irrigated areas show a significantly smaller percentage of payments made in kind to total farm expenses than do the dry areas. It is true, with greater need for farm labour, artisans' and servants' total payments in kind on irrigated farms exceed those made on unirrigated farms. Outlays for other purposes do not seem to show the same uniform trend towards monetization. While the requirements for fertilizer and manure are met by cash purchases by the irrigators (as against an almost complete dependence of the dry farmers upon their own inadequate supplies), the requirements for fodder, seeds and plants are met to a very large extent from their own produce. It is difficult to say whether this means that the transition towards a cash economy has reached some kind of equilibrium short of complete specialization, or whether the survey merely caught a particular point in a continuous process. Even so it remains true that the old system of subsistence farming is replaced by an exchange economy in which

⁶ D. R. Gadgil, *Economic Effects of Irrigation*, Poona, 1948, p. 74.

payments are received and made increasingly in money. This monetization of farm transactions has the effect of establishing a substantial measure of integration between the region and the rest of the national economy.

Closer integration with the rest of the economy is usually mediated by various middlemen and marketing agencies who will claim a share of the total profits for their services. That is to say, in addition to the traditional moneylender, the cultivator is now faced with a group of persons upon whose services he becomes dependent and whose interests do not necessarily coincide with his own. Moreover, there develops a new kind of dependence upon outlets and prices. A drop in the price of sugar may hit the irrigated village economy in essentially the same way as a bad harvest—with this difference: that the latter is perhaps more easily understood than the former.

Another effect of the monetization of farm transactions is the decline of the demand for the services of village artisans such as carpenters, smiths, potters, barbers, and *dhobis* (laundrymen). This seems to be a regular pattern. An increase in purchasing power and easier contact with towns and cities (made possible by improved means of transportation) tends to give rise to a demand for city products and services (ploughs, pots, pans, barber services, textiles, not to speak of bicycles and flashlights), even though the village products may be perfectly adequate and aesthetically perhaps more satisfying and less standardized. Village studies in India confirm this tendency of villagers to turn away from indigenous artisan products as soon as additional purchasing power combined with contact with urban centres make such a shift possible.

C. The Stabilization of Farm Output

Inadequacy and unevenness of rainfall in unirrigated areas make Indian agriculture a particularly uncertain and risky business, the degree of which can be measured by the extent of crop failures. If the average rainfall during the growing period is inadequate or unevenly distributed, the entire crop or a high percentage of it may never mature. Crop failures of this kind can be measured by the percentage of matured crop to total area of cropping. The lower the percentage the greater the extent of crop failure.

In some areas of India the amount and distribution of rainfall are such that agriculture has been aptly described as a "gamble in

rains". Whenever the total amount of rainfall or its distribution fails to live up to the requirements of plant growth, crop failures occur to a lesser or larger extent. In the Hissar District (Punjab), where until recently irrigation had not made much headway and where the nature of the soil would not permit the land to bear more than one crop even in years of normal rainfall, available data covering 15 years (1939-1954) indicate that in three years more than two-thirds of the crops failed to mature; in 7 years failures ranged between 41.9 percent and 71 percent; and only in one year did 88.2 percent of the crop mature.⁷

In the area in which the 1952-53 study of the potential effects of the Bhakra Dam was conducted, a large part of the crop was lost due to inadequate rainfall. As much as 85.25 percent of the bajra crop did not mature. Conditions of other crops were only slightly better: 50.58 percent of jowar (*Sorghum*), 100 percent of watermelons, 46.7 percent of gowar (*Cyamopsis tetragonoloba*); and 12.31 percent of mint had failed during the year under report. Many other crops had been complete failures and gram (*Cicer arietinum*), barley, and wheat suffered losses of 86.3 percent and 85.3 percent.⁸

The losses incurred by society as a result of crop failures can be measured either in terms of the value of the crop lost or in terms of the waste of seeds, family and hired labour (wages), and bullock power or the loss of public revenues due to the suspension of the collection of land taxes and the remission of instalments of various government loans and substantial expenditures for relief measures to drought areas.⁹

By providing an assured supply of water over the entire growing season, irrigation changes the nature of agriculture. Instead of a gamble in rains, farming becomes an activity with a more or less

⁷ R. L. Anand, *Punjab Agriculture, Facts and Figures*. Government of the Punjab, Economic and Statistical Organization, Publication II, Chandigarh, 1957, p. 5.

⁸ Gurdit Singh and Swarn Singh, *Effects of Bhakra Dam Irrigation on the Economy of the Barani Villages in Hissar District, 1952-53*, Economic and Statistical Organisation, Government of Punjab, Publication No. 32, Chandigarh, n.d., p. 13.

⁹ While no overall statistics seem to be available on these financial losses to the state, a careful reading of the Indian press supports the conclusion that these losses are not only substantial but a regular phenomenon in most drought areas.

predictable outcome. As compared to the extreme variations in the percentage of crops matured that was characteristic under former conditions, farm output tends to be stabilized by irrigation. The extent of the stabilization can be measured either directly in terms of the percentage of the total area under fully matured crops or indirectly in terms of the increased output over a representative period of time long enough to include years of drought and inadequate rainfall. By reducing the risks of uneven rainfall, irrigation makes the supply of foodstuffs and farm output less dependent upon the vagaries of the weather and thereby places the planning effort including the long-run industrialization plan upon a sounder foundation.

This conclusion finds dramatic support by a comparison of the extent of crop failures in Hissar District in the Punjab, which has a relatively low percentage of total area under irrigation, with the extent of crop failures in the Amritsar District, where 90 percent of the crops are irrigated. During the last 15 years the percentage of crop failures in the Amritsar district never exceeded 7.3 percent (against a maximum of 71.0 percent in the Hissar District) and for the most part was 3.8 percent or lower.¹⁰

D. The Intensification of Farm Production

In order to obtain the fullest possible benefits of irrigation, it is necessary to make more intensive use of human labour, bullock power, fertilizers and manure, and improved seeds as well as farm equipment. More manpower is required for such purposes as clearance, levelling, planting, harvesting, and supervision; draft animals are worked for a longer period during the year and hence consume more fodder and must be fed intensively over a longer period of time. Irrigation crops such as sugar-cane and rice require the use of more fertilizers and manure, and these in turn produce the best results only if they are applied in proper proportion with more water and improved varieties of seeds. In short, irrigation calls for a more intensive form of agriculture than dry farming.

¹⁰ Anand, *op. cit.*, p. 24. Needless to add, a low percentage of crop failures does not mean absence of fluctuations in real output or variations of monetary yields due to changes of crop prices which in a cash economy determine the relative success or failure of the farm enterprise. Hence, low percentages of crop failures are not equivalent to stability of farm earnings, particularly if the cash crops have a higher yield variability and are subject to greater price fluctuation than the crops grown before irrigation was introduced.

The new pattern of agriculture is reflected in a new pattern of farm inputs and farm expenditure. A study of these patterns of farm expenditures is of considerable importance for an understanding of the economic impact of irrigation, inasmuch as it indicates with some precision the new input requirements called for by the new method of farming. In fact, reliable comparative data on farm expenditures in dry and irrigated areas might enable the planning authorities to estimate the new requirements of manpower, of bullocks, of fertilizers, improved seeds and other farm inputs called for by the irrigation component of river valley projects.

An inquiry into the monthly distribution of manual and bullock labour in a dry farm area (Hissar District, Punjab) for 1952-53 shows that the workdays of manual labour for farm cultivation are concentrated largely during the five months from July to November when sowing and harvesting operations are conducted. Hired labour as well as bullock labour follow almost the same course. There is practically complete idleness of manual and bullock labour during the months of December, January, and February.¹¹ On dry farms the average number of days worked per year is not more than 153.9, or, expressed in different terms, the average number of hours worked per day is 3.37 hours.¹² By extending the period of cultivation and by making it less dependent upon seasonal rainfall, irrigation has the effect of spreading work more evenly over the entire year.

Moreover, irrigated crops call for a much more continuous and intensive use of manual labour and bullock power. In the two districts which were the subject of a special cost accounting survey in the Punjab in 1954-55, it was found that while the use of human labour on unirrigated crops per acre was 12 adult man-days¹³ per year, the employment of human labour on irrigated land was about 24 man-days. Similarly, the use of bullock power showed a substantial increase in irrigated cropped areas as compared with dry areas (18.7 against 11.6 days of 8 hours).

¹¹ Singh and Singh, *op. cit.*, p. 28.

¹² *Ibid.*, p. 29. These figures which apply to a specific district in the Punjab are merely an illustration of the general problem of underemployment in India. For the country as a whole, recent estimates indicate that 30 million people are engaged in gainful work for five days a month; 40 million for less than 10 days a month and about 53 million for less than 15 days a month. *Economic Weekly*, January 17, 1959, p. 71.

¹³ An adult man-day is equivalent to 8 hours per day.

Whereas about 90 percent of the total man-days in unirrigated areas are contributed by family and exchanged labour, only 82 percent are provided in this fashion on irrigated land. That is to say, the percentage of hired labour¹⁴ increases from 10 to 18 percent. Whereas unirrigated areas make use of hired labour only to the extent of 1.3 man-days per acre, the irrigated areas used 4.1 man-days or more than three times as much hired labour.¹⁵

In this connection Gadgil's earlier study of expenditure data is still of interest. While total outlays for paid (casual and contract) labour in the Godavari area (expressed as a percentage of total farm expenditure) were only slightly higher on irrigated farms (5.7 percent as against 5 percent on unirrigated farms), the irrigated farms showed a much lower percentage of hired labour paid in kind than did the unirrigated farms.¹⁶

Our own inquiries and information obtained in several areas affected by irrigation schemes (Mandya in Mysore, Chalakudy in Kerala, Erode in Madras) support the thesis that a perennial supply of water makes for more as well as more continuous employment. In some of the irrigated areas of Southern India, it has become an established practice to import migrant labour from adjacent non-irrigated farming areas during the planting, weeding, harvesting, and threshing phases of rice cultivation when a maximum effort is required to handle the crop.

While there is still unemployment and underemployment in irrigated areas, this must not detract from what might be called the employment effect of irrigated farming in India. The impact of river valley projects on employment *during* the construction period has probably been exaggerated if we consider the need for capital intensive work processes called for by the building of dams and reservoirs; however, the contribution which the irrigation component could make to the absorption of the unemployed and underemployed in rural India *after* the completion of these projects has not been sufficiently stressed. This effect on rural employment

¹⁴ Hired labour includes besides farm servants engaged for long periods on farms, also all types of casual labour of men, women, and children engaged in rush periods for harvesting, sowing, or bringing in of crops, or picking of cotton or vegetables.

¹⁵ All data cited in this paragraph are from *Studies in Economics of Farm Management in Punjab*, *op. cit.*, pp. 73-79, Tables 4.25, 4.26, 4.28. For definition of units of measurement see Para. 4.26.

¹⁶ Gadgil, *op. cit.*, p. 49.

which results from the greater intensity of farming made possible by irrigation must have a more lasting and significant effect on employment than the construction of the dam. Furthermore bullocks are used for a longer period of time during the year; as a result there is a higher demand for fodder crops to sustain the more intensive use of draft animals. In addition to human labour and the use of animals, there are other important expenditures which figure prominently in the expenditure account, and are significantly higher on irrigated as compared with unirrigated areas. A detailed breakdown of these expenditures is shown in Table 2.

TABLE 2

BREAKDOWN OF EXPENDITURES FOR DIFFERENT FARM INPUTS FOR CROP PRODUCTION PER ACRE ON IRRIGATED AND UNIRRIGATED LAND, 1954-55, IN RUPEES¹⁷

	<i>Irrigated</i>	<i>Unirrigated</i>
<i>a.</i> Human labour		
Family and exchanged	34	16
Hired	11	3
	<hr/> 45	<hr/> 19
<i>b.</i> Bullock labour	37	19
<i>c.</i> Seed	9	6
<i>d.</i> Farm yard manure	5	—
<i>e.</i> Fertilizer	2	—
<i>f.</i> Interest on fixed capital	3	2
<i>g.</i> Depreciation on implements	6	3
<i>h.</i> Artisans	2	2
<i>i.</i> Rent and rental values of land	58	26
<i>j.</i> Land revenue	2	2
<i>k.</i> Irrigation charges	9	—
<i>l.</i> Miscellaneous	—	—
	<hr/>	<hr/>
Total value of inputs per irrigated acre held	178	79

The higher input of human labour and bullock labour is clearly reflected in the higher expenditures for items *a* and *b*. Whereas there are assignable input values for manure and fertilizer on irri-

¹⁷ *Studies in Economics of Farm Management in Punjab, 1954-55, op. cit.*, pp. 73-74.

gated areas, there are apparently no such input items on unirrigated farms—a clear indication of the greater intensity of cultivation under conditions of irrigation. Also it is interesting to note that rent and rental value of land increases in proportion to total outlays; in both cases, this item amounts to roughly 33 percent of total outlay. That is to say, while the absolute amounts paid to landowners are increasing from Rs. 26 to 58, the relative share (as a percentage of total farm expenditures) received by the owner does not seem to be affected in one way or another by the intensification of farming called for by irrigation. Since the landlord is usually not a partner, even in a small way, in irrigated farming and does not make payments for land improvements, his increased rental income is for all practical purposes “unearned” and hence should be available for land taxes and water rates.

Irrigated land also shows a higher intensity of cropping as compared to unirrigated areas. There are unirrigated areas in India which offer considerable scope for an extension of the cultivable area by reclaiming uncultivated but cultivable waste land. Gadgil's data revealed a considerably lower percentage of “current fallow” and “uncultivated waste” on irrigated as compared to unirrigated farms (4.5 percent versus 11.7 percent current fallow and 0.8 percent to 2.1 percent waste). The percentage of total uncultivated area was 13.7 percent on irrigated farms as against 15.7 percent on unirrigated farms.¹⁸ In the area of the Mettur-Tanjore project (Battukkottai taluk) the percentage of cultivated area has shown a steady increase between 1931 and 1951. It now amounts to 46.8 percent, against only 26.1 percent in the non-project area. While the area brought under new cultivation has increased by 43.9 percent there is evidence that the area should be further increased if the available water were used more economically by the farmers in the project area.¹⁹

It would be wrong to believe that the preceding data represent a measure or even an approximation of the potential intensification of farming which irrigation is likely to render possible in India. This is made particularly clear by Krishnamurthi's study which leaves no doubt that the intensification of farming is still far from what could be achieved by modern methods of agricul-

¹⁸ Gadgil, *op. cit.*, p. 27.

¹⁹ Krishnamurthi, *op. cit.*, pp. 71-72.

ture.²⁰ If Krishnamurthi's findings are indicative of conditions in other areas affected by irrigation projects there must be a wide gap between the actual and the potential benefits obtainable from irrigation in India.

E. Increased Productivity

Any assessment of the impact of irrigation on yields and output is complicated by the fact that water is only one factor among many that determine yield and output. Of the other factors only the following may be mentioned: the use of manure and fertilizer, the utilization of improved varieties of seeds, especially seeds that yield crops in a shorter growing period, crop rotation, proper planting, and adequate cultivating. Maximum results are obtainable only by a combination and proper proportioning of the various factors. Furthermore, there are special statistical problems and conditions which make it hazardous to generalize from official yield data in India that are calculated by dividing total output by total acreage. First, there is the possibility of systematic underestimation of output due to the cultivator's interest in not disclosing the full magnitude of his harvest. This applies particularly to war-time data when compulsory collections were either practiced or feared. Second, any shift to the more highly priced cash crops has the effect that less valuable crops are grown increasingly on the less fertile soil. And third, India has been forced to expand the area of cultivation on marginal land with very low yields in the absence of improved methods of cultivation. For all these reasons yield data derived by dividing total production by total acreage convey the picture of India as a country where soil fertility has been stabilized at an exceedingly low level.²¹

²⁰ Very few improvements in cultivation practices have been introduced in the area of the Mettur-Tanjore Project. For instance, the practice of green manuring has not been introduced. Only 1.2 percent of the total paddy is of the improved strain. There was only one instance of the Japanese method of rice cultivation. Only 8 percent of the total area under paddy in Battukottai taluk received an effective dose of ammonium sulphate in 1954-1955 when the campaign for the use of ammonium sulphate was at its peak. The proper application of green manure and ammonium sulphate alone would lead to substantial increases in yields.

²¹ It is interesting to note however, that yield data derived from actual crop cutting surveys in specific areas and states show a more favourable situation. While they still show considerable variations of yields, reflecting mostly variations in rainfall, and while yields are still low, there is nevertheless some indication of

In the light of the foregoing considerations it must be evident that comparative yield data on irrigated and non-irrigated tracts cannot be accepted for the time being as reliable measures of either the actual or the potential benefits of irrigation in India. The total potential effects of irrigation on yields and output can be ascertained only under controlled conditions where it is possible to experiment with modern techniques and methods in accordance with our contemporary knowledge of agronomy. Sugar-cane, paddy, wheat, and jowar grown on experimental farms in India show average yields that exceed by more than one hundred percent the yields obtained by farmers in adjoining areas. While it may be unrealistic to use yield data on experimental farms as the basis for calculations of the potential benefits of irrigation, it is certainly not more realistic to appraise the benefits of irrigation simply in the light of yield data which do not reflect the level of output which modern agricultural knowledge and techniques could open up to the Indian farmer. This is not to deny that the "soundness" of a loan advanced for the construction of an irrigation project depends upon actual rather than potential yields and output which modern technology has placed within reasonable reach. What is questioned, however, by the foregoing observations is whether the bankers' test of the soundness of the loan measured in terms of present yields and output is an adequate test of the socio-economic justification of the project. If India were to confine herself to the construction of river valley projects that are financially sound in the light of present backward practices and yields she may never be able to create the preconditions for an agricultural system that is capable of providing the necessary supplies of food and farm commodities for her urban communities and export requirements.

Yields on irrigated and unirrigated tracts: Available data on differences of yields on irrigated and unirrigated tracts show differentials of more than 100 percent for specific crops. For wheat, the most

a rising trend. The method of ascertaining yields by crop cutting surveys has been introduced as an experimental measure and will be utilized for framing official estimates of yields for each crop and each state only after it has been more firmly established. This information and preliminary tables showing yield for different crops based upon crop cutting surveys were made available to me by Dr. R. S. Sen, Economic and Statistical Adviser, Ministry of Food and Agriculture, Government of India. I also wish to acknowledge a discussion of this subject with Dr. Panse, Indian Council of Agricultural Research, Statistical Wing, Government of India.

recent data from the Punjab indicate that whereas unirrigated tracts do not produce more than 4.3 to 7.7 maunds per acre, irrigated areas have yields of 12.9 to 13.5 maunds per acre.²² Pre-independence estimates of average yield differentials on dry and irrigated lands vary from area to area. They range from 572 lbs. per dry acre to 967 lbs. per irrigated acre in the Punjab, and from 510 lbs. per dry acre to 1,250 lbs. per irrigated acre in Bombay state.²³ For rice, the Punjab shows the greatest variation (587 lbs. as against 1,269 lbs.), whereas the estimates for Madras State show yield differentials per acre of 1,138 to 1,694 lbs. In a more recent pilot survey conducted in the Tanjore District, it was found that the provision of irrigation through the Mettur Project "has by itself almost doubled the yield of paddy (rice in the husk), the average yield being 39 kalams per acre in the canal fed area and 20 kalams in the non-project area."²⁴ Even more significant differentials of average yields on dry and irrigated lands are reported for such important crops as jowar, ragi (a millet), gram, and barley in the Deccan.²⁵

It is not necessary to comment in detail on these increases of average yields and output made possible by irrigation. Suffice it to emphasize merely that unquestionably irrigation is a strategic factor without which these increases in yields and output would not have occurred. This is not to say that the increase in the supply of water is the only factor responsible for the improvements of farm yields and output. Certainly there were other improvements in techniques of farming, such as the use of fertilizers, manures, improved seeds, new methods of planting and cultivation, which contributed to the final outcome; but it is important to realize that these improvements in techniques represent additional investments called for by irrigation farming. In this sense, the increased yields and outputs are not the net result of investments in irrigation but are the combined result of the joint investments in irrigation and improved techniques of farming.

The second point to be emphasized is related to the fact that actual increases in average yields and output in a particular region

²² *Studies in Economics of Farm Management*, *op. cit.*, pp. 85, 95.

²³ W. Burns, *Technological Possibilities of Agricultural Development in India*, Lahore, 1944, p. 56.

²⁴ Krishnamurthi, *op. cit.*, p. 73.

²⁵ M. L. Champhekar, *A Note on the Assessment of the Direct and Indirect Effects of Irrigation*, Bombay, 1950, p. 26.

do not necessarily represent the limits of agricultural improvements. On the contrary, in view of the fact that in many areas under irrigation the utilization of water is far from complete, and that improved techniques of agriculture are still the exception rather than the rule,²⁶ it is safe to conclude that actual yield improvements represent merely a fraction of the potential benefits obtainable from irrigation.

F. Effects of Irrigation on the Size of Holdings and Number of Farm Units

What is the effect of irrigation upon the structure of land ownership and tenancy? What is likely to happen to the average size of holdings and to the number of farm units? It is difficult to formulate unequivocal answers to these important questions. As far as the relative size of holdings is concerned, the available statistical evidence seems to support the conclusion that the average size of farms is likely to increase, and correspondingly, the number of farm units to decline. In other words, irrigated farming may ultimately lead to a consolidation of holdings. Gadgil's investigation, which was undertaken more than 20 years after irrigation was first introduced in the Pravara and Godavari irrigation project, showed that the average size of the 193 irrigated farms was nearly 40 acres and above the average of 33 acres in the control group of the 198 dry farms. But these findings may simply reflect the fact that the smaller units found it more difficult initially to convert to irrigation farming. Probably this is the reason why Gadgil merely advanced the negative thesis that the number of farm units do not seem to increase with irrigation.²⁷

A general tendency of the average size of irrigated farms to increase (and the number of farms to decline) could be inferred from data showing the relative profits and losses per irrigated acre held, classified according to size groups. The value of such calculations is limited by the necessity of imputing costs in the smaller size holdings which work more with non-contractual family labour and less with contractually hired labour. To charge the smaller sized farms with the opportunity wages available on adjoining tracts—which may be a correct statistical procedure—may have the effect of overstating their input costs. At the same time the proportion

²⁶ See Krishnamurthi, *op. cit.*, pp. 75-77.

²⁷ Gadgil, *op. cit.*, p. 115.

of total output used to cover the minimum requirements for family needs and fodder for livestock is greater on smaller farms than on the larger farms, which once more makes it necessary to impute output values and opens the way to overstating the losses on the former. Nevertheless, the fact remains that the larger the size of the farm the greater the proportion of land devoted to the more remunerative cash crops (such as cotton, wheat, sugarcane, rice), and this must account for their greater profitability. Detailed cost accounting samples showing profits and losses per irrigated acre of land classified by size groups in the Punjab support the conclusion that returns per acre exceed costs per acre only for farms of 50 acres or more, and that losses per irrigated acre decline as the size of the farms increases.²⁸ If these data are representative of relative costs and returns of different holdings they point to the conclusion that in order to be profitable irrigated farming requires larger holdings and ultimately tends toward the consolidation of smaller holdings.

Experiences in Montana indicate that high irrigation costs on smaller size holdings may lead to bankruptcy and to a subsequent consolidation of holdings. The average size of irrigated farms in Montana increased from 125 acres in 1919 to 223 acres in 1935. The average size of farms owned increased from 82 acres in 1919 to 157 acres in 1934.²⁹ These data would lend support to those who argue in favour of larger farm holdings in order to stabilize farm

²⁸ The following table summarizes the results of a cost accounting sample survey of the Amritsar and Ferozepur Districts in the Punjab (quoted from *Studies in Farm Management in the Punjab 1954-1955*, *op. cit.*, p. 63):

INPUT, OUTPUT AND PROFIT AND LOSS PER IRRIGATED
ACRE HELD, BY SIZE GROUP, 1954-1955

<i>Holding Size Groups (Acres)</i>	<i>Input Rs.</i>	<i>Output Rs.</i>	<i>Profit or Loss Rs.</i>
0-5	228	173	—55
5-10	208	184	—24
10-20	184	181	—3
20-50	178	176	—2
50 and above	141	147	—6

²⁹ P. L. Slagsvold, *An Analysis of Agriculture on the Valier Irrigation Project*, Montana State College Bulletin No. 330, Bozeman, Montana, December 1936, p. 25.

practices at a higher level of productivity and efficiency. The social effects of a trend toward larger holdings in India would be an increase in the number of landless workers who would have to seek employment either on the larger farms or in urban industries. In short, as in the case of other investments, the ultimate benefits of the irrigation component of river valley projects may be distributed rather unevenly and may give rise to far-reaching social dislocations for great masses of cultivators and village inhabitants.

G. Other Direct Effects

There are other important direct effects of irrigation which are frequently overlooked in discussions of the impact of irrigation. Their full significance can be understood only in the light of the fact that there are areas in India where severe shortages of water are regular occurrences during the dry season. The water table in these regions may be as low as 300 feet below the ground. Shortages of water threaten people and animals alike. Indeed, without an assured supply of water the raising of cattle may be out of the question. In some areas and years the situation may become so acute that villages must resort to rationing the available water or must fetch it from sources several miles away. In some parts of Northern Rajasthan water is so brackish that people transport their drinking water 40 to 50 miles.³⁰ Irrigation projects prevent calamities of this sort by making available an assured supply of water for drinking and cattle farming throughout the year. By raising the ground water level even in the non-project area, they have the further effect of reducing the costs of well-digging and making it possible to extend the area under cultivation in zones adjacent to the area of the project. These benefits of irrigation are typically of the nature of social utilities which tend to diffuse themselves among the people within a particular region. The fact that they are social utilities does not make them in any sense less real and less important than the benefits which can be appropriated individually.

CONCLUSION

Admittedly the foregoing account is an incomplete picture of the

³⁰ According to Mr. Karni Singh's statement in India's Parliament. See *Hindustan Times*, March 26, 1958.

total repercussions of river valley projects in underdeveloped countries. As we indicated from the very outset, we were not concerned here with the indirect or secondary effects which the change in the structure of farm production and the transition to cash crops may have on the structure of production and distribution in the surrounding area. Nor have we paid attention to the socio-cultural impact which the shift to cash crops may have upon the social structure and the world outlook of the population affected by the project. The preceding account is incomplete also insofar as it does not deal with such social costs as water logging, increased soil salinity, and irrigation-induced malaria which may be caused by a perennial supply of water in formerly dry areas in tropical or semi-tropical regions. While it is possible to indicate the general direction of the economic changes which a perennial supply of water might bring about in an area formerly dependent upon an inadequate and uneven supply of rainfall, a complete and detailed *ex ante* forecast of the repercussions of a given project is not possible.

In the first place, each project and each region has its unique physical characteristics. Topography, soil conditions, water table, climate, stream flow, population density, and the amount of unutilized land are likely to differ from region to region. A densely populated area like the Punjab will show different effects as compared with the impact of irrigation on a sparsely populated area like that of new Rajasthan Canal. Obviously these difficulties are not unsurmountable. Regional surveys of the physical characteristics of a given area with particular emphasis on their significance for the irrigation and production potential of the area can throw considerable light in these questions. This is precisely the objective of the technical surveys which must be carried out prior to the selection of alternative sites for river valley projects. In this connection, one could perhaps hope for a closer cooperation between engineers, agronomists, and soil experts as well as the malaria expert.

But even if we had all the relevant data on the physical potentialities of a given region, there would still be a second uncertainty: namely, the fact that the effects of an irrigation project, especially in an underdeveloped area, depend also upon the responses of the rural population to the opportunities offered by the new productive factor. Will farmers be willing and able to make the necessary subsidiary investments called for by the new technique of farming?

How will different income groups respond to the additional output and income? Will cultivators work more, or will they work less? Questions of this sort can be answered only by persons thoroughly familiar with the typical response pattern of the rural population in different parts of India and the reasons why these responses have not always lived up to expectations. Sociologists, anthropologists, agricultural extension workers, and irrigation administrators may have to cooperate to fill this gap in our knowledge, if we wish to anticipate correctly the effects of a perennial supply of water. It goes without saying that knowledge of the response (or lack of response) to the new technique would enable the planning authorities to establish the administrative organization designed to promote the necessary acceptance of the new methods of cultivation.

This brings us to a third reason why the effects of the irrigation component of river valley projects are not simply a function of the available water and land resources. As the experience of India indicates, these effects depend also upon the economic and administrative policies pursued by government authorities. A policy of relative *laissez-faire* will give rise to different results than a policy of deliberate planning and appropriate administrative measures called for by irrigated farming. There are strong reasons to believe that in addition to an ingrained inertia and the widespread inclination to gamble in rain, inadequate planning of the distributaries and the tendency of charging high water rates in an effort to recoup the initial outlays in a relatively short time have acted as obstacles to a speedy transition to irrigation farming. In other words, here again the effects of irrigation will depend upon variables which are not fully taken into account. However, the practical implications are clear. The job of the planning and irrigation authority is not finished with the completion of the dam and the storage of water. The speedy utilization of the new capital investment and the maximum economic advancement of the region depend upon a host of additional measures among which social education, agricultural reform and extension work as well as efficient administration play a major role.

Fourth, the full effects of any component of a multipurpose project depend also upon the interaction of its effects with those of all the other components. For instance, the availability of electricity may make it possible to supply the region with sup-

plementary lift irrigation by electrically driven pumps and may provide a convenient and flexible source of power for village (cottage) as well as urban industries engaged in the processing and transformation of agricultural raw materials. In short, the overall effects of any multipurpose project depend upon the effective coordination of the several components of the project. Finally, it stands to reason that the stimulating impact of any project depends upon the magnitude of its expansionary effects, as compared with the stagnation effects which have kept the region in a backward state in the past.

It will be argued that without a detailed and precise forecast of the effects of a given river valley project it is impossible to arrive at a rational judgment of the relative worthwhileness of alternative investment projects. Indeed the question may be raised whether heavy capital investments absorbed by river valley projects in under-developed areas may not yield higher returns if allocated to such alternative uses as the improvement of agricultural techniques, better farm management, farm credit, farm marketing, and the extension of domestic and foreign markets. If we had unequivocal answers to questions of this sort, the process of economic planning and resource allocation would be simple. Unfortunately, we are far from the point where answers to questions of this kind can be advanced with any degree of certainty. The difficulty is not only that the total effects of irrigation are not known, but that the effects of alternative investments cannot be easily estimated, with the precision that would be desirable. There is no scarcity of investment outlets in a country like India, and it is doubtless important to consider these alternative outlets. But what are and how can we measure the actual effects of investments in improvement in agricultural technology and farm management in India? There is a great need for an improved farm credit system that could take the place of the present system of moneylending at high interest rates. But what are the political chances for such reforms, and how will they be received? What are the probable returns of investments in agricultural extension, farm marketing, and perhaps a policy of guaranteed prices for specific crops? The same uncertainty surrounds investments in rural education, improved communications, and an effective campaign in favour of birth control in villages. While it is relevant to keep in mind that there are many ways of increasing the supply of food, it

would be a fallacy to believe that we possess the knowledge of the actual effects and benefits of alternative measures with any higher degree of precision and certainty than is the case with reference to the direct effects of river valley projects. In fact, many of these alternative investments are of the nature of social returns and "external economies" which tend to diffuse themselves throughout society. Furthermore, in a country like India with an inadequate and uneven rainfall and a rapidly increasing population in virtually all rural areas, neither improvements of farm techniques and farm management, nor concentration of production in a few surplus areas with comparative advantages (in terms of farming costs), would remove the obstacles which recurrent food shortages place in the way of economic growth and development. For even improvements of farm techniques cannot reduce the cultivators' dependence upon an assured supply of water ; and the concentration and intensification of farm production in a few areas with comparative (farm) cost advantages would still leave the shortage areas unsupplied, because the overtaxed transportation system would not be able to handle the additional traffic. That is to say, the problem of food shortages could find a solution only at heavy additional social expenditures for transportation.

Finally, it must be remembered that irrigation is only one of several components of most multipurpose projects, and that such projects are usually part of a general development plan. To judge the irrigation component in isolation, i.e., in terms of benefit-cost ratios, instead of within the context of the specific and the general social goals pursued with each of the components, is arbitrary and self-defeating. This is not the place to go into a detailed discussion of the variety of purposes and social goals of river valley projects. Suffice it to say that the economist *qua* economist has no knowledge which enables him to reject *a priori* any of the social goals pursued by river valley projects. To apply the yard-stick of the market to these goals is merely to repeat what we already know, namely, that the market has the tendency to neglect the long-term social benefits and to concentrate production in a few areas to the exclusion of others. If these other areas are nevertheless densely populated (as they are in India), if coal deposits are concentrated in one or two regions, and if the transportation system and the development of other overhead capital equipment has long been neglected (as in India), the goal of regional development by

providing an assured supply of water for irrigation and electricity cannot be rejected as unreasonable. The criteria of judging the worthwhileness of such investments can be found only in terms of a comprehensive theory of cumulative growth, which pays adequate attention to indirect and social benefits.

APPENDIX

Note on Investment Criteria

The practical and theoretical importance of a general conceptual framework for the qualitative and quantitative analysis of the effects of river valley projects requires hardly any elaboration. Economic planners in underdeveloped countries are asking with increasing insistence for suitable investment criteria, designed to permit a rational judgment¹ of alternative projects. Such criteria would have to throw light on the as yet unsolved and open questions of national economic planning that are related to the ranking of river valley projects as compared with other social overhead investments, the establishment of priorities among alternative projects, the determination of the relative public expenditure level and hence the proper size for each project; the allocation of costs to the different but joint purposes of the project, and lastly the determination of the administrative measures and subsidiary investments which would secure the prompt and optimum use of the new capital equipment. Obviously, the common prerequisite for the elaboration of rational investment criteria is a comprehensive knowledge of the typical (both actual and potential) effects of various projects.

While there is no scarcity of theoretical studies on the subject, a satisfactory solution of the difficult problem raised by the aforementioned issues still seems to escape us. Indeed, the authors of a rapidly increasing literature on benefit-cost calculations in connection with river valley projects seem to have no illusions concerning

¹ We are using the generic term "judgment" rather than the traditional concepts of choice, evaluation, and measurement in order to avoid any misunderstanding and avert any illusion concerning the quantitative precision that can be hoped for in the process of decision-making in national economic planning.

the comprehensiveness and validity of such criteria. In fact, it is one of the merits of these studies² to have made explicit some of the assumptions which underlie the calculations of investment criteria in terms of benefit-cost ratios. Among these assumptions are the following: (i) that prices reflect the true opportunity costs of resources (which they do not in underdeveloped countries which are on the verge of emerging from a long period of stagnation and are in a process of economic and social change (ii) that human resources are fully employed (which is not the case in underdeveloped countries which carry with them much open and disguised unemployment); (iii) that the intangible benefits are not so large that they outweigh the benefits that can be measured in monetary terms (which may hold neither for developed nor underdeveloped countries); and (iv) that problems of equity (e.g., equalizing the opportunity of economic growth as between different regions and redistributive reforms in general) can be ignored. This assumption while perhaps tenable for developed countries where problems of equity are taken care of by countervailing powers excludes from the discussion some of the most important obstacles to economic growth and social change in underdeveloped countries.

Indeed, all benefit-cost studies seem to be focussing attention on the allocation problem at the expense of the question of whether and what kind of cumulative economic and social changes may be set in motion by river valley projects. In a fully developed country in which the preconditions of cumulative economic and social change are more or less fulfilled, this neglect may perhaps be justified. In an underdeveloped country where "the natural play of forces" has long tended toward stagnation,

² See Otto Eckstein, *Water-Resource Development*, Cambridge, Mass., 1958, p. 280-81; *Symposium on Determination of Costs and Benefits of River Valley Projects*, 1953, Central Board of Irrigation and Power, New Delhi, 1954; H. W. Singer, "Development Projects as Part of National Development Programmes", United Nations, *Formulation and Economic Appraisal of Development Projects*, I, New York, 1951; W. Galenson and H. Leibenstein, "Investment Criteria, Productivity and Economic Development", *Quarterly Journal of Economics*, Augus. 1955, pp. 343-70; V. V. Novozhilov, "On Choosing between Investment Projects", *International Economic Papers*, 1956, No. 6; *Proposed Practices for River Basin Committee*, Subcommittee on Benefits and Costs, Washington, 1950.

the use of purely monetary benefit-cost calculations as investment criteria raises more questions than can be answered at the present time. For instance: will the highest benefit-cost ratio automatically assure the highest real and social rate of return? Will the highest rate of return and profitability based upon the pattern of demand that emerges from free consumers' choices necessarily guide us to those investment outlays which maximize the rate of growth? Finally, how can benefit-cost ratios take into account the fact that investments with long periods of gestation and high capital intensity in all associated production functions may have a lower productivity in the short-run and hence a high capital-output ratio which might disappear if a longer period of time is allowed in measurement?³ As soon as it is realized that the process of economic growth in order to become cumulative must also be a process of social change and cultural transformation, it becomes clear that benefit-cost ratios, while not without some significance in evaluating public investments in fully developed countries, may be much less relevant as investment criteria for underdeveloped countries.

We start from a somewhat different theoretical framework than that which underlies the calculations of benefit-cost ratios. In contrast to the theoretical framework which assumes a tendency toward self-stabilization, we accept the principle of circular or cumulative causation which Myrdal first developed in connection with the analysis of the Negro problem in the United States and which he has recently applied to the study of the economic process in underdeveloped countries. This principle seems to throw light on the emergence, continued existence, and even growth of regional inequalities by focussing attention upon the interaction of what are really inseparable economic, political, and cultural factors. Like the well-known cumulative interaction of poverty, ignorance and disease, the social system, under the impact of the whole range of economic and non-economic factors, "is by itself not moving toward any sort of balance between forces but is constantly on the move away from such a situation. In the normal case a change does not call forth countervailing changes, but,

³ W. Rostow, "Trends in the Allocation of Resources in Secular Growth", in L. H. Dupriez, ed. *Economic Progress, Papers and Proceedings of a Round Table Held by the International Economic Association*, Louvain, 1955, pp. 367-82.

instead, supporting changes, which move the system in the same direction as the first change but much further.”⁴

In contrast to the earlier conceptual framework which views the social process (or at least the conceptually separated “economic” process) as subject to essentially countervailing forces which tend toward some theoretically definable and determinate stable position, the principle of cumulative causation makes it possible to account for the practically more relevant tendency of circular stagnation in underdeveloped countries. What has to be understood above all are the causes which retard economic growth and give rise to regional inequalities. And these processes cannot be fully interpreted as long as “economic” factors are seen in isolation from the “non-economic” factors.

This is not the place to develop the concept of cumulative causation in greater detail⁵ and with particular reference to regional inequalities in underdeveloped countries. Suffice it to make explicit its scientific and methodological implications for a realistic study and ultimate appraisal of the effects of river valley projects. Perhaps the first and most important implication is that river valley projects must be viewed in their relation to the total economic situation and development plan of the country under consideration. What must be determined in each case is the effect and potency of an impulse (such as irrigation and power) to bring about changes in the social system in the direction of cumulative expansion. This does not mean that it is necessary or even desirable to study the process of cumulative change in its totality. The strategy of scientific analysis calls for a reduction of any problem under discussion to manageable proportions and for the introduction of relevant distinctions between the different factors at work. While we will have to divide the process under study according to these methodological requirements, it will be necessary to keep in mind at all times that the changes set in motion are interconnected. More than this, it is important that the effects be traced and described not only qualitatively but also quantitatively. Ideally the scientific solution of the problem would require an “interconnected set of quantitative equations, describing the movement and the internal changes of the

⁴ G. Myrdal, *Rich Lands and Poor*, New York, 1957, p. 13.

⁵ For a fuller treatment see Myrdal, *op. cit.*, Chs. 2-8; and *The American Dilemma, The Negro Problem and Modern Democracy*, Appendix 3, “A Methodological Note on the Principle of Cumulation”, New York, 1944, pp. 1065 ff.

system studied under the influences which are at work. That this complete, quantitative and truly scientific formulation is far beyond the horizon does not need to be pointed out."⁶

In the meantime it will be helpful to provide a rational framework capable of identifying as completely as possible the relevant and strategic functional relationships which river valley projects are likely to set in motion. What the planner must know and the social scientist wants to discover are the effects which an additional supply of water in a dry area may have on the structure of farm production. What will be the effects of the new structure of production on the rural subsistence economy? What are the new input and investment requirements? What are the probable expenditure patterns which the new output and the additional farm income make possible? What additional yields can be expected? Which administrative arrangements and subsidiary public investments will be called for in order to assure the optimum utilization of the new capital equipment and through it the maximum economic advance of the region? Equally important, what are the potential negative effects of supplying additional water to a formerly dry area in a tropical country? And finally, what will be the long-run impact of the new structure of production and the new farm economy on the cultural values and behaviour patterns in the underdeveloped area? It goes without saying that some of these relationships are less accessible to scientific analysis than others. However, a rational framework of investment planning calls for a comprehensive appraisal of all the effects, whether immediate or potential, which river valley projects may set in motion. Without such an appraisal the planning authorities are not likely to develop a realistic strategy of administrative controls designed to assure the greatest possible benefits from the public investment.

From the foregoing it must be clear that the interrelated effects of multipurpose projects can be appraised only in real terms. That is to say, we must abandon the hope of analyzing the circular process in terms of a single criterion of market values and must instead face the much more difficult task of finding a way to trace its effects in terms of criteria that are adapted to the task of evaluating the cumulative process of growth in its various manifestations. Ultimately this is possible only in terms of a technical standard that measures improvements in "the economy

⁶ Myrdal, *Rich Lands and Poor*, *op. cit.*, p. 19.

of means" in physical terms rather than in terms of the traditional formal test of the efficiency of allocation within the economy as a whole. No doubt an underdeveloped country can ill afford any inefficiency (waste) in the allocation of its limited resources for its competing objectives. But in the absence of any precise and substantive knowledge of the benefits obtainable from the whole range of alternative investment outlets (e. g., improvement of agricultural technology and farm management, reform of farm credit, widening of internal and foreign markets, administrative and political reforms, wider educational opportunities, and changes in land tenure arrangements), we must be satisfied with an appraisal of the development process in terms of physical quantities. Such an evaluation can be expressed in terms of output per input (production per factor) or in terms of input per output, in which case we measure the use or "consumption" of a required factor per unit of output. In either of its two forms productivity data are ratios without upper limits. What makes productivity a particularly comprehensive test of the growth process is the fact that its increase depends upon many contributing factors. Technology and equipment must combine with greater skill and the capacity to innovate, as well as greater equality of opportunity, greater industriousness, and new patterns of human relations, before it is possible to make a significant dent in the low level of productivity (particularly agricultural productivity) of most underdeveloped countries. It is precisely because productivity depends upon economic *and* social changes that improvements in productivity provide not only the most comprehensive test but also the major goal of the underdeveloped world. Unless productivity is rising in the affected regions from year to year, we cannot truly speak of a successful river valley project.

Finally, an analysis of the long-run effects of river valley projects would gain in perspective if it could take full account of the conditions that existed during the last decades prior to the transition to irrigated farming. Ideally, this would require a survey of the region designed to convey a picture of the available resources and their use; principal crops and output; the use of manure and fertilizer; crop patterns and rotation; principal occupations and employment patterns; the labour supply including major skills and percentage of unemployed; the pressure of population on land including birth, mortality, and morbidity rates; the financial resources of the

cultivators; administrative arrangements and their relative effectiveness; the extent of social services such as medical care and education; and the frequency and extent of famines and floods including an indication of the loss of public revenues due to the suspension of land revenue collections, as well as of other features of socio-cultural backwardness and deficiencies. Indeed, for all purposes of planning and evaluating the effects of a given project, it is important to conduct a series of benchmark surveys before and during the completion of the project.

Benchmark or socio-economic surveys are prerequisites of adequate forecasts and adequate planning. They provide a guide to the determination of the targets that are possible. They show the sources of backwardness and stagnation of an area and they enable the planner to indicate what must and can be done. A masterplan which simply lists the component parts of a project and their probable costs is a budget and not a plan. An economic plan must work out in detail the possible and the necessary physical targets as well as the administrative policies which must be adopted in order to reach these targets. The evaluation of such a plan must take place in terms of its compatibility with foreseeable human needs, its consistency with the physical capacities of the land, the maintenance of maximum technical efficiency as well as in terms of an optimum coordination between its different components.

VI.

RIVER VALLEY PROJECTS: PROBLEMS OF EVALUATION AND SOCIAL COSTS*

I. INTRODUCTION

GEOGRAPHY and climate have made many areas of India arid regions exposed to heavy evaporation and account for the fact that heavy and assured rainfalls occur only in a few zones. The average rainfall in the rest of the country is not only small but subject to great variations. It is this inadequacy and unevenness of rainfall which give rise to recurrent crop failures in some areas and make other regions desert areas.¹ The only dependable way of providing an assured supply of water is to store the precipitation in catchment areas which have regular and abundant rainfall and to divert this water through canals to the areas with inadequate and uneven rainfall.

Current estimates place the rate of population growth in India at 1.8 percent or 1.9 percent per annum as against earlier estimates of 1.2 percent to 1.5 percent. A recent report of thirteen American agricultural experts working under the auspices of the Ford Foundation estimates that India will have added 80 million people to her population by 1966 (the end of the Third Five Year Plan). Food production must be increased by 57 percent during the next seven years if the increased population is to be fed. No conceivable programme of imports or rationing can meet the anticipated gap of 28 million tons of foodgrain by 1966.²

A slightly more conservative Indian estimate³ puts the annual (absolute) increase of population at 5.7 million persons. Considering that it takes a ton of cereals to feed 7 persons per year, the additional supply of food required per year to feed the increased

* Reprinted with permission from *Kyklos* 1959, XII, 4, pp. 589-604.

¹ There are regions with a mean deviation percentage of 22 percent in the South West Monsoon and 38 percent in the North East Monsoon.

² See The Government of India, *Report on India's Food Crisis and Steps to Meet it*, by the Agricultural Production Team sponsored by the Ford Foundation, New Delhi, 1959, pp. 11 and 12.

³ See P. C. Mahalanobis, Anniversary Address entitled "Science and National Planning", National Institute of Science of India, 1958, p. 14.

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population alone would (at a low estimate of 5 million) be 700,000 tons of cereals.

India's yields per acre are among the lowest in the world. No doubt there is considerable scope for increasing average yields per acre by adopting modern techniques including the increased use of manure and fertilizers as well as improved seeds. However, in view of the magnitude of the food gap and the resulting imminent danger of starvation and in view of the fact that the problem of backward methods of cultivation and agricultural reform have proved to be among the most stubborn roadblocks to economic development in the past it will remain imperative to expand the area under cultivation. Improved methods of cultivation alone are unlikely to be sufficient to cover the food deficit. In India, the deficit can be eliminated, if at all, only by transforming submarginal land into productive areas. One of the innovating techniques by which this must be achieved, is to place additional areas under irrigation and thereby to make room for more intensive methods of farming. According to recent estimates only 20 percent of the cultivated area is irrigated and only 6.9 percent of India's total water wealth (in terms of annual run-off) are employed for irrigation and hardly 3 percent is harnessed for power. "In 1946, the area under irrigation was 46 million acres; the area to be reached by 1961 is 87 million acres, including 19 million acres due to minor irrigation projects in the First and Second Five Year Plan."⁴

In short, in the absence of alternative foreign sources of food supplies which would have to be paid for sooner or later by increased exports, the prevention of starvation or even famines of large masses of the Indian population in the near future depends upon major capital investments in dams and reservoirs as well as an increasing use of manure, fertilizers and improved seeds. Moreover, unless additional water is stored and actually used by cultivators shortfalls in food are bound to interfere with the industrialization effort which is placed in jeopardy each time shortages of food and raw materials interfere either directly or indirectly (via foreign exchange deficits) with the implementation of the plan. The fact that major reservoirs and dams also contribute to the control of floods and, if properly planned can be and often are also used for the establishment of

⁴ M. S. Thacker, "Problems Facing Us Today" (Presidential Address, Central Board of Irrigation and Power) in *Indian Journal of Power and River Valley Development*, VIII, November 1958, p. 1.

hydroelectric plants underlines further the strategic significance of investments of this kind.

II. PROBLEMS OF EVALUATION

The evaluation of the costs and benefits of river valley projects belongs to one of the most difficult problems in both theoretical and applied economics. Despite a rapidly increasing literature there seems to be as yet no satisfactory solution in sight.⁵ The almost complete omission and indeed inability to include important intangibles and development benefits as well as potential social costs in the traditional benefit-cost ratios is one of the basic weaknesses of all current attempts to develop single formal investment criteria within the framework of individualistic welfare economics. By concentrating on products and services which can be made the subject of market evaluations and to which monetary values can be assigned, benefit-cost ratios would seem to have persistently underestimated both costs and benefits. Indeed no amount of additional energy and ingenuity spent on attempts either to quantify and add together the tangible benefits (such as irrigation benefits, flood control benefits, navigation and power benefits) or to find monetary equivalents for the less tangible benefits and "external economies" (such as equalization of economic and cultural opportunities through balanced regional development, public health, soil conservation and defense) can alter the fact that we are confronted with social benefits and social costs which call for social judgments and social choices.

Evaluations in terms of market values may perhaps provide a first step towards a social judgment but such first approximations must never be permitted to become substitutes for the process of social evaluation. In fact if they are permitted to monopolize our attention to the exclusion and at the expense of the more qualitative social benefits and costs, economic analysis deprives itself of the opportunity of "maximizing" its contribution to the planning pro-

⁵ Only the two most recent studies need to be mentioned here: O. Eckstein, *Water Resource Development. The Economics of Project Evaluation*, Cambridge, Mass., 1958; R. N. McKean, *Efficiency in Government through Systems Analysis with Emphasis on Water Resources Development*, New York 1958. For a critical review article of some of the relevant literature see J. Margolis, "The Economic Evaluation of Federal Water Resource Development", *American Economic Review*, XLIX, March 1959, pp. 96-111.

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cess which must be based upon a knowledge of the socio-economic processes which multipurpose projects are capable of setting in motion. It is highly problematical to concentrate on benefit-cost ratios in terms of market values and to relegate the broader social benefits and costs into supplementary documents on the ground that these costs and benefits are non-economic and presumably will be analyzed and evaluated by political or administrative authorities.⁶ For in this way they may never be analyzed with the result that their significance and scope will be neglected or discovered only when it is too late.

Projects for the development of water resources for an entire river valley are major capital investments. Their most important objective is to set in motion a cumulative process of growth by providing the region with the productive factors which are in short supply: water and power (and in some instances navigation facilities and regulation of stream flow to avert losses caused by floods). Viewed in this manner river valley projects have many characteristics in common with a general economic plan of which, indeed, they are frequently an integral part. Like a general economic plan a river basin development project must be understood to be much more than a simple decision to increase the rate of capital formation in a given area. It is a programme of strategy, of deliberate state interference with the price system in order to assure that the process of circular interactions really comes off and develops as planned, to use a recent formulation by Myrdal.⁷ It is important that the full implications of this formulation be clearly understood. In the first place the long-term investment project cannot be expected to be "remunerative" in the short-run. Indeed, if it had been remunerative in the short-run, there would be no reason why it should not have been undertaken by private enterprise. The heavy initial outlays required, the long-term and social character of its benefits, the uncertainty of its outcome and the fact that the emergence of even the tangible direct benefits depends upon a whole series of subsidiary organizational measures and joint investments speaks against private enterprise showing much, if indeed, any interest in

⁶ "It is up to the Congress or the Budget Bureau to search their collective or their constituents' utility functions to decide among projects with different combinations of tangible and intangible benefits and costs." J. Margolis, *ibid.*, p. 98.

⁷ G. Myrdal, *Economic Theory and Underdeveloped Regions*, London, 1957, p. 88.

these projects. Secondly, whether we wish to refer to river basin projects as public works in the sense in which Adam Smith used the term, or as social overhead investments, or whether we stress their effects in bringing about an extension of markets and hence of the division of labour, or whether we emphasize their effects in terms of "external economies", the planning authorities and the theoretical economist will have to find a rational conceptual framework in terms of which it is possible to describe the cumulative effects which are aimed at and which can be expected to accrue over their life span.

In this connection it will be essential to visualize by means of a comprehensive analysis the circular development process which the projects are expected to touch off. To this effect it is necessary and indeed a prerequisite of any investment plan of this sort, to foresee and identify the relevant and strategic causal relationships which link the various components of the project as well as the administrative measures required to overcome the rigidities and bottlenecks which may stand in the way of the implementation of the plan. Not only will it be essential to discover the functional relations between enlarged irrigated areas (and additional power facilities) on the one hand, and increased output, higher yields, and new industrial and urban developments on the other, but it would also be important to take account of the secondary changes which these increases may induce as well as the social institutions and administrative arrangements which are called for in order to assure the optimum utilization of the new capital equipment and through it the maximum economic advance of the region and the country. Not the least important of these changes are such negative effects of irrigation as water-logging and man-made malaria.

In the light of the foregoing considerations it will be clear that the complicated process of circular causation which river valley projects are expected to set in motion can be analyzed and assessed only in real terms. To use benefit-cost ratios calculated in terms of current prices as a basis for investment criteria would be equivalent to accepting as constant what is not only sure to change but what the development plan is precisely designed to alter. Current prices may reflect present supply and demand conditions together with all the irrationalities of the present distribution of income and of a socio-cultural order which is not geared to the production of wealth and the satisfaction of human wants. The real question is

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not whether benefits measured in terms of present prices are sufficient to cover current costs but rather what are the potential benefits (and costs) under the conditions of the anticipated population increase or, alternatively, what would be the effects in terms of total social opportunity costs if the projected increase in population were not matched by a corresponding increase in productive facilities. That is to say the development agency will have to concentrate its attention on such dynamic factors as population growth and food requirements, the potential contribution to farm output which the newly irrigated area is capable of making under alternative assumptions, viz., that the cultivators adhere to their older methods of cultivation or that they can be induced, through appropriate additional investments in social education as well as agricultural reform, to adopt more progressive methods of farming. The question is really: what will be our future needs and our potential accomplishments which the investment project places within our reach? Only in this way can we be reasonably sure that the nature and scale of our projects will not turn out to be inadequate and obsolete within a few years after their completion. We might indeed get faster growth if we paid less attention to the banker's test and such monetary measurements as national income and instead concentrated on the real requirements and potentialities of the cumulative development process which we intend to set in motion.

As long as we concentrate on a single formal criterion either for the establishment of social priorities among alternative projects or for the determination of their scale or the improvement of their internal productivity once they are in existence, we will probably not make much headway in reaching an understanding of either their strategic significance or their potential social costs. It would appear that the minimum prerequisites are an awareness of the total costs and benefits (both tangible and intangible) and a willingness to weigh their relative importance in the final decision-making process. That is to say we must abandon the hope of analyzing the circular process in terms of the single criterion of market value and must instead face the much more difficult task of finding a way of assessing effects in terms of criteria that are better adapted to the task of measuring economic growth than the traditional test of static efficiency in terms of marginal costs and marginal returns.

In the preceding essay dealing with the direct benefits of the irrigation component of river valley project we have endeavoured

to show that the evaluation of river valley projects must allow for the assessment of their over-all contribution to regional economic growth. Criteria of dynamic change cannot be found in terms of an index of economic efficiency that measures the optimum allocation under static conditions but only in terms of an indicator of the progressive improvement in "the economy of means" which the investment is likely to make possible from year to year. Labour and capital productivity seem to provide such a test. As ratios without upper limit they are not standards of excellence or of a static optimum but a standard of socio-economic development and general progress in man's mastery over the sources of his material well-being.⁸

There may be additional criteria partly related to the productivity test which could serve as further indicators of dynamic change in the direction of balanced regional development. Only the following need to be mentioned here: Rate of resource employment, degree of employment stability, frequency of floods, drought and crop failures, standard of living including levels of health and sanitation in terms of morbidity and mortality rates, provision of educational facilities, population growth, rate of urbanization and industrialization and contribution to national defense.

III. SOCIAL COSTS

The following discussion will focus attention on the causal relationship between irrigation projects and their more important social costs. While our data and illustrations are taken from India the validity of our analysis is not necessarily confined to conditions on the Indian subcontinent. Practically all irrigated farming may give

⁸ While it is probably possible to measure the total monetary costs of a particular river valley project there is no easy way of saying what the alternative (marginal) benefit would have been if the same amount of resources had been invested in such alternative lines of social investment as education, public health, transportation or the promotion of scientific research. Hence in the absence of any substantive meaning which may be given to the notion of opportunities foregone in specific cases of public investments the principle of opportunity costs, while formally correct, is nevertheless empty as an investment criterion and as a guide to public decision making. For a further elaboration of the distinction between the static concept of efficiency and the dynamic concept of productivity see W. Duane Evans, "Comments on Marvin Frankel 'Anglo-American Productivity Differences: Their Magnitude and Some Causes'", *American Economic Review*, *Papers and Proceedings*, XLV, May 1955, pp. 115-19.

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rise to far-reaching social losses if proper precautions and controls are not adopted from the very beginning. The specific nature of these precautions and controls is a technical problem that lies outside the scope of our discussion.

In speaking of social costs of river valley projects we are widening a concept which was originally developed to cover only certain negative repercussions of private production affecting third persons as well as general losses to society caused by productive activities carried out for private gain. While it is true that to some extent the social costs of irrigation are the result of private farm practices (or malpractices) of individual cultivators, in the last analysis it is the neglect by public authorities to provide certain subsidiary investments and their failure to adopt proper controls which account for the emergence of these social losses in the utilization of water resources. For this reason it is justifiable to consider them as causally related to public investments. Just as the social costs of business enterprise tend to be neglected unless proper controls are introduced, public investments may give rise to social losses which remain unaccounted for in the social evaluation of river valley projects. Since these negative effects are foreseeable and preventable by proper controls and subsidiary investments they may be said to be of the nature of social costs similar to those which have accompanied many private productive activities.

As already pointed out foremost among the social costs of irrigation projects are water-logging and malaria. Their combined effect may in some instances be sufficiently destructive to nullify the expected increase in farm output and productivity. In some cases these social costs have been severe enough to bring about the complete abandonment of the original irrigation project.

Water-Logging

One of the most serious, frequently unanticipated and yet predictable effects of irrigation projects has been the often indiscriminate over-use of water by cultivators accustomed to dry farming. Several factors seem to account for this over-use. In part it is due to the attitude of the cultivator for whom water has always been a factor in short supply and who cannot imagine that it is possible to use too much of it; partly the over-use is brought about by the fact that water is made available on a bulk rather than on a volumetric basis. Additional causes of water-logging are inadequate supervision by the

cultivator during the particular hours when water reaches the field through the distributaries and defectively constructed (i.e. inadequately), lined canals and distributaries and the neglect or even absence of adequate drainage systems on the irrigation tract.

Inadequate study and knowledge of ground water levels may act as contributing and aggravating factors of water-logging in some areas. For example, in one of the oldest irrigation areas of India (Irwin Canal, Mysore) great quantities of water were drawn and permitted to flood the whole area under cultivation. Land became saturated with water, subsoil water rose from 20 to 40 feet below the surface to practically ground level; as a result water began to flow out from wells; floors of houses became damp and even walls were affected by capillary seepage. The surplus water drained into tanks which filled to capacity which in turn raised subsoil water levels in adjacent villages. Large parts of irrigable land soon became water-logged and heavy growth of weeds on these lands interfered with routine agricultural operations causing yields to decline. Moreover, the filling of tanks led to extensive backing up of streams and rivers resulting in silting and water-logging further upstream and in valleys.⁹

Similar conditions prevailed in other irrigation areas. In the Decan (Bombay State) improper methods of irrigation led to the complete destruction of soil fertility and final abandonment of substantial areas of land which had to be reclaimed later by the installation and operation under government auspices of a drainage system at additional heavy government expense. In the Punjab, one of the most efficiently operated agricultural areas of India, nearly seven million acres are affected by water-logging as a result of irrigation. In Iraq about 20 to 30 percent of the cultivated land under irrigation had to be abandoned due to salinity brought about by the lavish use of water and the absence of adequate drainage.¹⁰

Irrigation and the Increased Incidence of Malaria

Careful case studies of malaria in irrigated areas in India leave no doubt than man-made malaria continues to be one of the social costs of irrigation schemes. The causal relationship between irriga-

⁹ Cf. B. A. Rao, "Malaria in the Irwin Canal Area, Mysore State", *Journal of the Malaria Institute of India*, VI, December 1945, p. 104.

¹⁰ International Bank for Reconstruction and Development, *The Economic Development of Iraq*, Baltimore 1952, pp. 203-04.

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tion and malaria has been well described more than twenty years ago:

"Irrigation malaria, although the subject of investigation by health officers for almost a hundred years, is probably a greater nuisance now (1945) than ever before.

It is not irrigation per se, but defective and untidy irrigation, which by misplacing water to the advantage of certain anopheline mosquitoes generates malaria. Waste irrigation water is an important source of malaria.

An irrigation project which fails to provide proper drainage causes a rise in subsoil water levels, resulting in increased mosquito breeding and, eventually, in water-logging of the soil. If among the favored mosquitoes there are malaria vectors, as is usually true, then irrigation without drainage brings malaria, either as a new affliction or as a heightening of the existing endemicity.

Frequently in an irrigation project considerable mosquito breeding and consequent malaria results from such minor engineering aberrations as leaky sluice gates, seeping canal banks, borrow pits, defective distribution chambers, immoderate supply and improper delivery of water, poorly maintained canal beds, or absence of a sufficient number of bridges, general water untidiness.

Other causes of irrigation malaria are absence of a planned or controlled system of field channels, sections of old canals left as ponds, barrage lakes causing a rise in subsoil water, increased wet cultivation, more and shallower wells".¹¹

More recent studies have thrown additional light on the causal connection between irrigation and malaria. The malaria season tends to coincide with the irrigation season, hence if the latter is lengthened so is the season of malaria. In the Irwin Canal area (Mysore) irrigation farming, particularly under the influence of the block system of water charges, led to the concentration on the more remunerative commercial cash crops to the exclusion of the less remunerative dry crops. In effect this meant an alternation between sugar-cane and paddy. Actually sugar-cane which normally is an 18 months crop tended to be harvested in periods varying from 18 to 27 months. This harvesting of sugar-cane at different stages not only upset the triennial rotation and depleted the soil but also raised the water level and interfered and delayed the transplantation of paddy. As a matter of fact transplantation of paddy was in progress almost every month throughout the year instead of being confined to June and July. This in turn meant a lengthening of the season of exposure to the malaria carrying mosquitoes.

¹¹ P. F. Russel, "Malaria Due to Defective and Untidy Irrigation", *Journal of the Malaria Institute of India*, 1, December 1938, p. 348.

Malariologists have developed significant measurements both of the increased incidence of malaria and the socio-economic losses caused thereby.¹² Recognition of these causal relationships between irrigation and social losses of considerable magnitude makes it mandatory for those in charge of the planning and implementation of river valley development projects to establish the closest possible coordination between the work of the engineer on the one hand and that of the soil expert, agronomist and malariologist on the other. Such coordination, and planning in physical terms offer the only guarantee that irrigation canals and distributaries will be properly lined in order to reduce or eliminate dangerous seepage of water into adjacent territories; that proper drainage systems will be installed and that effective methods of malaria control will be adopted (and maintained!) with a view to minimizing the incidence of the disease in irrigated areas.

¹² The increased incidence of malaria can be shown in the increased numbers of death (from "fevers") after the introduction of irrigation in a particular area, or more technically and directly in terms of data of spleen and parasite rates in the affected area. The following table lists the number of "death from fevers" in selected areas in the Irwin Canal region, after the beginning of irrigation during the period of 1930-1935. The areas I, II and III differ according to the percentage of villages irrigated with group I having the highest percentage and group III practically no irrigation.

The figures show clearly that the increase of death from fevers is most marked in the area having the highest percentage of villages irrigated. The area with practically no irrigation shows almost stationary conditions as far as the number of "death from fevers" is concerned. (For the more technical data on increasing spleen and parasite rates in these areas see B. A. Rao, *ibid.*, p. 118, and Narahari Rao and S. R. Bhombore, "A Summary of the Economic Status of Villages in a Malarious Tract in Mysore State, India, After Residual Insecticidal Spraying", *Bulletin of the National Society of India for Malaria and Other Insect Borne Diseases*, IV, May 1956, pp. 71-77. The increased incidence of malaria and other diseases may be such as to completely paralyze the village economies. Rao-Bhombore have estimated the economic losses caused by malaria in terms of the loss of work and income, expenditures for medical treatment, "spiritual care" connected with rituals designed to appease divinities who in some rural areas of India are believed to impose sickness as a form of punishment, funeral expenses including maintenance of relatives and friends who may come from great distances, and expenses in wages for imported labor needed because of shortage of local manpower. The actual total family outlays (attributed to malaria) for medical care, "spiritual care", funerals, illness and loss of earning due to death, could be shown to be Rs 1053 before spraying with DDT and Rs 126 after spraying. The differential of Rs 926 represents a saving of a magnitude sufficient to move the poorest families up to the second category of income groups.

River Valley Projects: Problems of Evaluation and Social Costs 141*Premature Silting*

There is still another kind of social costs that may be connected with river valley projects which has yet found only little if any recognition. These social costs are connected with the interrelated dangers of soil erosion and deforestation and the premature silting of the reservoirs. With the completion of the project agriculture will expand over a wider area and settlement may become denser than it was before. Especially if the project generates electric power industries will be attracted to the region and population is bound to expand. Urban centres may spring up providing urban markets for agricultural and forest products including timber. Unless special steps are taken from the very outset nothing will prevent the evil consequences of bad land management and deforestation in the upstream area. In the United States these consequences have given rise to substantial social losses in the form of premature silting in

Expressed in other words, additional family outlays of Rs 926 made necessary by malaria are liable to leave the family permanently impoverished and indebted. (S. R. Bhombore *et al*, "A Survey of the Economic Status of Villages in a Malari-ous Irrigated Tract in Mysore State, India, before and After DDT Residual Insecticidal Spraying", *Indian Journal of Malariology*, VI, December 1952, pp. 355-66.) Studies of this kind are interesting primarily for the methodological approach to a quantitative measurement of the losses represented by sickness and loss of life.

DEATH FROM FEVERS IN SELECTED IRWIN CANAL AREAS
DURING THE PERIOD OF 1930-1935*

	% of villages irrigated	1930	1931	1932	1933	1934	1935
<hr/>							
<i>Group I</i>							
Mandya Hobli	95	122	118	280	209	271	378
<i>Group II</i>							
Dudda and Kothathi Hoblies	65	268	256	375	379	477	308
<i>Group III</i>							
Basaral Hobli	0-5	96	99	99	90	100	67

* B. A. Rao, *op. cit.*, p. 109.

a number of reservoirs. Such silting of reservoirs not only interferes with the capacity to store water for flood prevention and irrigation requirements but ultimately is bound to reduce the life expectancy of the project. When a multipurpose project is operated mainly for the generation of electric power (which is often the biggest revenue producer) there may be important technical reasons for maintaining a stable and high water level which, however, may give rise to a rapid deposition of sand and silt. The silting of the reservoir may put an end to the whole project long before it has reached its originally calculated long-term life expectancy. When this occurs the economic and social foundation of the entire region will be effectively destroyed. In fact "the situation reminds one of the finds of archaeologists indicating that civilizations have flourished while climatic conditions were favourable and have disappeared when the skies withhold rain. These instances, to be sure, are not quite parallel to the present effort to reclaim land; but in capturing silt-laden rivers engineers are facing an equally devastating natural danger. So much silt is impounded with the water that it literally crowds out its assumed long-term promise. The danger is much more imminent than climatic change."¹³

IV. CONCLUSION

The foregoing discussion has focussed attention on some of the more important social losses which may be caused by the irrigation component of river valley projects. All of the aforementioned social losses are predictable and preventable. They are predictable with the aid of more complete surveys of the physical conditions of the area affected by the new water supply. They are preventable in so far as proper methods of construction of dams and distributaries and appropriate methods of water utilization would eliminate the hazards of water-logging, malaria, erosion and deforestation. Needless to add that such preventive measures are of the nature of supplementary investments which must be planned as integral parts of the original social overhead investment scheme if the latter is to make the maximum contribution to the development of the region.

¹³ Charles A. Buckley's commentary on a paper by J. C. Stevenson on "The Future of Lake Mead and the Elephant Butte Dam", quoted from N. K. Bose, "Future of Multipurpose River Valley Projects", *Indian Journal of Power and River Valley Development*, VIII, April 1958, p. 1.

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In other words investments in river valley projects cannot stop with the outlays for the construction of dams, reservoirs and distributaries but must be carried forward into practically all stages of the utilization of the water.

The phenomena of social benefits and social costs underline once more the need for the most comprehensive planning of projects in physical or real terms. It is insufficient and misleading to calculate cost-benefit ratios if these calculations are confined only to measurable benefits in terms of additional crops produced and to the monetary costs involved in the erection of the dam and the construction of the distributaries. What is perhaps more important is to identify from the very outset a maximum of the relevant and strategic physical and socio-economic processes which multipurpose projects could potentially set in motion. It is only the totality of these effects which can provide the ultimate test for the socio-economic justification (or lack of justification) of the social overhead investment. Market values cannot be accepted as criteria for the evaluation of the ultimate benefits and costs of these projects because they cannot measure important social benefits ("external economies") and social goals (such as balanced regional development) nor significant social costs (such as water-logging and irrigation malaria). For this reason the planning process cannot be based simply upon supply and demand factors and other data which reflect all the irrationalities of an economy not geared to development, but must endeavour to take the fullest possible account of the less accessible extra-market yields and losses connected with river valley projects. There can be no common denominator for these yields and losses which in the last analysis call for socio-political judgments. Indeed, the original investment plan calls not merely for a social estimate of the total benefits and total costs but must define detailed administrative procedures and controls which, by eliminating all kinds of bottlenecks and rigidities, guarantee the maximum use of the new productive factors and minimize or prevent altogether the emergence of social costs.

VII

THE TRANSITION FROM A BULLOCK TO A TRACTOR ECONOMY IN INDIA: SOME INDIRECT EFFECTS AND BENEFITS*

In collaboration with
P. N. MATHUR

THE PRESENT essay attempts to trace some of the more important indirect effects which a transition from a bullock economy to a tractor economy may have in a country like India. After a short review of the traditional argument against the use of capital-intensive technologies in densely populated pre-industrial economies, we consider briefly the general case for the mechanization of agriculture. Thereafter, we try to show how the replacement of bullocks by tractors can be achieved by establishing service cooperatives which could ultimately serve as modernization centres in rural India. The fourth section compares the costs of cultivation by tractors and bullocks. The fifth section deals with the potential effects resulting from the release of fodder and its availability for alternative uses such as milk production. In conclusion we examine briefly the effects on unemployment.

I. MECHANIZATION AND THE ARGUMENT AGAINST CAPITAL- INTENSIVE TECHNOLOGIES

Any proposal for the large-scale mechanization of agriculture in a densely populated pre-industrial economy is bound to raise critical questions based upon our traditional theory of relative prices. Thus, it will be argued, that the mechanization of agriculture emphasizes capital-intensive methods of production in an environment in which labour is the relatively abundant factor, and is likely to accentuate the unemployment and underemployment of human labour and underutilization of draft animals. Similarly, it may be pointed out, that the mechanization of agriculture draws upon necessarily limited foreign exchange reserves and thus reduces the

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investment and industrialization potential in countries which have to import the major part of their capital equipment. Finally, the use of tractors in agricultural operations has been opposed on the ground that it may emphasize mechanization at the expense of the much needed intensification of agriculture by means of improved seeds and increased use of fertilizer.

Static theory compares current costs and expected returns essentially in isolation from any social development objective. As a result, it tends to neglect important social benefits and external economies which cannot be internalized by private producers and, hence, remain outside the market calculus. Consequently, economic theory fails to consider many of the potential effects and benefits of modern technologies. Among the few advantages which the late-comers in economic development have is their access to a fully developed technology laboriously built up in the more advanced economies. Indeed, traditional economic theory seems to support the view that the underdeveloped world must pass through all intermediate "stages" which the highly industrialized countries had to undergo in the course of their own development.

In contrast to this traditional perception of the development process, it is becoming increasingly clear that the study of economic growth calls for an understanding of the causes of economic stagnation. These causes are not purely "economic" in nature but have their origin in the institutional framework of underdeveloped countries. The real obstacles to economic growth are not so much specific shortages and deficiencies of this or that factor of production but rather the existence of powerful "backwash" or "polarization" tendencies which may keep the underdeveloped world in a kind of stagnation equilibrium, if deliberate steps are not taken to counteract or neutralize them.¹ What has prevented the modernization of agriculture in many less developed economies is not any particular deficiency of capital or lack of technical skill in the use of modern techniques of intensive agriculture but a socio-cultural environment which, by "contaminating" the general climate against productive investment decisions, has kept agriculture in a backward and generally stagnating state. The most important of these socio-

¹ For a particularly convincing statement of this new perception of the stagnation risks in the development process, see G. Myrdal, *Rich Lands and Poor*, New York, 1957.—Albert O. Hirschman, *The Strategy of Economic Development*, Yale Studies in Economics, 10, New Haven, 1958.

cultural factors are political dependence and inability to pursue reasonably protective policies, land tenancy and share-cropping systems, the utilization of available surpluses for conspicuous (unproductive) investment and consumption, population pressure and fragmentation of holdings, informal money lending at usurious rates, unfavourable terms of trade with the rest of the economy, unstable price levels of primary products, and inadequate marketing systems in which traders appropriate the bulk of the surplus. Under these circumstances, successful development policies cannot be formulated simply in terms of contemporary scarcities and relative prices. They must aim, from the very outset, at the removal of obstacles which have their roots in the institutional environment and must establish and support "inducement mechanisms" that make the modernization and intensification of agricultural production commercially attractive. In short, the stage must be set for a cumulative development process. Furthermore, in appraising the effects of alternative policies, it is necessary to take account not only of direct commercial benefits but, at the same time, of their potential indirect and catalytic effects. What is more we must encourage measures and incentives which help nurture and stimulate investment decisions which have been neglected for centuries in many underdeveloped countries.

More specifically, the use of tractors in Indian agriculture cannot be adequately appraised in terms of such direct effects as increased output but calls for an anticipation and evaluation of a whole series of potential catalytic effects. If properly planned and nurtured the mechanization of agriculture can be made to serve as an inducement mechanism for the introduction of new forms of organization, new ways of doing things, new skills, a new discipline and precision—in short it can lead to a variety of desirable socio-cultural changes. Admittedly, these are qualitative changes, but they are not for this reason less relevant. Indeed, they are the qualitative prerequisites of the quantitative increases of output and yields which together constitute the economic development process. It would, therefore, be self-defeating if we did not anticipate these effects of mechanization and permitted static comparative prices and contemporary scarcities or abundances to determine our strategy of development. As a matter of fact, as Myrdal has pointed out, it is the purpose of the development effort to alter the relative scarcities of factors and current price relationships which static theory accepts as a basis for

its calculations of benefit-costs ratios. The relative abundance of labour represented by rural underemployment—which incidentally may be much smaller than is sometimes believed²—is bound to diminish as soon as industrialization gets under way in earnest.³ Contrariwise the relative scarcities of food and, hence, relative food prices are likely to increase unless continuous efforts are made to raise the level of performance of the agricultural sector.

We are not arguing in favour of eliminating overnight all low-productivity techniques in favour of a few large up-to-date modern “agro-towns,” which derive their energy from atomically operated power plants and irrigate their fields by nuclear driven water works in the coastal regions which desalt and then transport and distribute ocean water from thousands of miles away. We suggest merely that the choice of techniques cannot be rationally determined in terms of a static theory of relative prices which tacitly assumes that today’s scarcities and factor endowments are relevant as investment criteria, despite the fact that it is the goal of the development plan to alter these relationships. In fact, we are suggesting that rational criteria for the selection of techniques cannot be formulated in terms of a static theory of relative prices and without an assessment of the long run changes which the introduction of new techniques is designed to bring about. For instance, the decision to establish a modern steel industry may be relevant in connection with the choice of techniques in agriculture and other fields of production. For, it is entirely possible that the technical requirements of steel production are such that capacity and production may increase at a faster rate than the domestic market is able to absorb. If this should be the case, it would appear rational, at an early time, to plan for the establishment of domestic steel processing and steel using plants (such as manufacturing of trucks and agricultural machinery) rather than to search for export outlets in which India has to compete with established steel producing centers of the industrialized world. These considerations may be more relevant than is usually believed if we consider that India is already exporting steel.

² See N. V. Sovani, “Underemployment, Removable Surplus and the Saving Fund”, *Artha Vijnana*, Vol. I, Poona, 1959, pp. 17 sqq.

³ A case in point is the relative suddenness with which the growth potential represented by rural underemployment seems to have been exhausted in China in 1958. See Charles Bettelheim, “The Chinese Leap Forward and the Revision of Statistics”, *The Economic Weekly*, Bombay, Vol. XII, January, 1960, pp. 213 sqq.

In short, neither benefit-cost ratios (in terms of comparative market prices) nor partial analysis in terms of studies of isolated effects can provide us with adequate criteria for a rational solution of the choice of new techniques. We suspect that the adherence to the market test in the past has been one of the restraining influences of the development process.⁴ Nor does it seem sufficient to extend the meaning of old concepts by formulating such notions as "marginal social costs" and "marginal social product" as long as we are unable to give these concepts concrete empirical content and meaning. What is needed are not more refined answers to old questions but a new dynamic perception of the development process. Ideally speaking, we must aim at a perception and appraisal of the long-run effects which the introduction of new techniques will bring about. In this endeavour, we must try to assess the total range of potential direct and indirect repercussions in the light of our general knowledge of interdependencies within agriculture and between agriculture and manufacturing. Admittedly this is a much more formidable and difficult undertaking than has ever been attempted by formal economic theory. For, what is required are empirico-quantitative investigations into input-output relationships and substitutabilities which not only presuppose a considerable familiarity with technological and economic interdependencies, but call for statistical data which are not necessarily easy to come by, especially in the underdeveloped world. The following discussion will have served its purpose if it directs attention to some of these interdependencies and indirect effects of the mechanization of agriculture in India.

II. THE GENERAL CASE FOR THE MECHANIZATION OF AGRICULTURE

Before dealing with some specific effects of mechanization of agriculture in India, it is essential to define the meaning of the term as

⁴ We cannot go here into further details of our scepticism concerning traditional economic theory and the market test. Suffice it to point out, that the market test is unable to take account of various social costs which are particularly important in the transition from a pre-industrial to an industrial economy. Thus, the transition from subsistence farming to cash crops has been notorious for its connection with soil destructive practices in the general scramble to minimize current costs, even though it was perfectly clear that future costs and outputs would be adversely affected. Similarly, market prices fail to consider such social (inappropriate) utilities and "external economies" which increased mechanization and modern techniques yield in the form of training, skills, expertise, general know-how and modern outlooks and attitude of the rural population of the underdeveloped world.

we wish it to be understood. By mechanization we have in mind a gradual substitution of tractors for bullocks in major farm operations such as ploughing and land improvements. We are not necessarily thinking of any extension of mechanization to such agricultural operations as, for example, harvesting by large-scale combines—at least not for the immediate future and until a more rapid rate of industrialization in urban areas would make it possible for the rural population to leave their villages in greater numbers.

The actual utilization of tractors in various parts of the world seems to depend upon a variety of factors such as the relatively high overhead costs of draft animals and the costs of fodder. The more intermittent the work throughout the year, the greater the relative overhead costs of horses or bullocks, and the lower the relative costs involved in the use of tractors. When the average hours worked by draft animals is low, tractors gain in advantage because draft animals have to be fed regardless of whether they work or not. At the same time, as tractors are becoming more dependable in operation and are adapted to new tasks and operations, the lower their average fixed costs.⁵ Similarly, where costs of fodder are relatively high, as for instance in Switzerland, not even relatively small holdings seem to militate against the utilization of tractors.⁶ In other words, intermittency of work, rising costs of fodder and, we may add, declining costs of fuel and lubricants tend to shift the balance in favour of tractors.

It is easier to visualize direct effects than to anticipate broader social and less accessible indirect consequences of economic change. Whereas the former have to do with the immediate repercussions resulting from new techniques of ploughing, and may be reflected in increased yields, the indirect effects tend to diffuse themselves throughout the rural economy. Although it cannot be assumed that these indirect effects follow automatically from the original change in technology and, indeed, cannot be credited to the initial investment alone—because they depend upon various supplementary farm investments—they must not be simply ignored in a comprehensive assessment of the total range of consequences of the shift in techno-

⁵ In the United States the average hours worked per year by tractors has increased from 181 in 1920-22, to 592 in 1947. F.A.O. data for the USSR indicate average hours worked per year between 800 and 1,600 for collective farms in 1936 and 1,100 for Machine Tractor Stations in 1940. Quoted from Colin Clark, *The Conditions of Economic Progress*, 3rd Ed., London, 1957, p. 304.

⁶ *Ibid.*, p. 305.

logy. The indirect diffusion effects may be on balance just as significant, if indeed not more important, than the direct effects particularly in less developed countries. For this reason, it is essential that a special effort be made to anticipate the admittedly long-run indirect repercussions which the mechanization of agriculture may have in a country like India.

Turning briefly to some of the direct effects it may be said that the shift to tractors would make it possible to plough the soil more thoroughly than with the traditional wooden plough drawn by a pair of bullocks. The soil can be worked when it is dry and ready for ploughing, if necessary even at night, whereas bullocks require regular rest periods which, at times, cause delays and expose the soil to renewed heavy rainfall. In areas with relatively short seasons, and for crops with relatively short production periods, tractors may actually make it possible to increase the number of times a field can be cultivated.

Such data as are available seem to indicate that tractor farming, like irrigation farming, makes possible a more intensive and specialized form of agriculture and enables the cultivator to improve his yields. Needless to add, that we are not arguing that deep ploughing by itself automatically leads to higher yields.⁷ Our point is rather that mechanization and intensification are not mutually exclusive. This can be illustrated in several ways. Thus, tractors can be used for such purposes as erosion control by more effective bunding and contour ploughing, for transport of soil, as well as crops, and the construction of small storage tanks or reservoirs in areas which suffer from inadequate or uneven rainfall. In addition, tractors can be used during the hot weather when bullocks are usually occupied with threshing.⁸ More important still tractors enable the farmer to break difficult soils or to eradicate (by repeated deep ploughing) weeds that cannot be eliminated by hand or by the traditional wooden plough drawn by bullocks. Tractors are indispensable as instruments to reclaim hitherto unusable land and to extend the margin of cultivation, particularly in some parts of Central India, where the eradication of weeds requires deep ploughing and where it

⁷ In some regions deep ploughing may actually be problematical because it increases the rate of evaporation of moisture.

⁸ This was shown to be the case in the Pilot Project area of Etawah see *Pilot Project, India, The Story of Rural Development in Etawah, Uttar Pradesh*, By Albert Mayer and Associates, Berkeley, 1958, p. 250.

may take more than a month of heavy human labour to bring one acre of new land into cultivation. Finally the use of tractors would release farm labour for such practices as hoeing, cultivation and weeding, which would also make for more intensive agriculture and higher yields.

III. SERVICE COOPERATIVES AS CENTERS FOR MECHANIZATION AND RURAL MODERNIZATION

In India, the small size of holdings and their fragmentation, prevailing conditions of tenancy and agricultural credit and the present cost-price structure combine to make it impossible for the great majority of cultivators to acquire tractors on an individual basis. Only a few landowners with large holdings may consider it profitable to make use of modern farm implements. In order to break these interlocking causes which have held back the modernization of Indian agriculture in the past, it will be necessary to deliberately create an institutional set-up which is acceptable to the cultivator and will induce him to substitute tractors for bullocks. This can be done through the creation of special service cooperatives which would enable the cultivators to purchase and own tractors on a cooperative basis.⁹ Such cooperatives would require initial government subsidies; they would have to pool local financial resources and would have to assume responsibility for the operation and maintenance of the equipment. That is to say the cooperative would be responsible for the acquisition of tractors and other equipment which would be made available to the cultivator on a rental basis. The cooperatives would hire and train the operators and mechanics needed for the operation, maintenance, and repair of the equipment. In fact, once established and in operation, the cooperative could hire out tractors to farmers who do not belong to the society. In addition, it could even become the nucleus of a general service cooperative concerned with such additional functions as the collection and marketing of saleable agricultural products

⁹ We do not consider the encouragement of mechanization through private channels where tractors would be acquired by private entrepreneurs and rented out to individual cultivators as an alternative to the service cooperative. Privately owned tractors or tractor stations would encourage and strengthen the position of the money-lender and would create new powerful vested interests in the rural economy with all the social and political disadvantages and none of the advantages of the cooperative way.

(milk, vegetables, oils, fruits). It could assume responsibility for the establishment of minor and major agricultural services, providing demonstration facilities for improved water control, intensive land utilization, the need for scientific crop rotation and diversified farming, as well as improved cattle breeding. Finally, the cooperative could expand its activities by setting up various food processing plants and by organizing and expanding cottage industries.

Cooperative societies originally organized to make the use of tractors possible, can ultimately serve as a strong inducement mechanism for a host of other innovations in the rural economy. What starts out as a cooperative effort for a specific purpose (mechanization) may be turned into a multipurpose cooperative society concerned with rendering a variety of agricultural extension services, all of which would contribute to an increase of output and of employment opportunities in the villages and lead to a general modernization of production and rural life.

IV. COMPARATIVE COSTS OF MECHANICAL AND TRADITIONAL CULTIVATION

Even if we accept the proposition that the mechanization of Indian agriculture can be accomplished only by means of service cooperatives, the question still remains whether the cultivator will actually switch from traditional methods of cultivation to ploughing by tractor. If we disregard for a moment the prestige value of owning bullocks in a traditional Indian village, the answer obviously depends upon the relative costs of cultivation by tractor as compared with those of ploughing with bullocks.

Unfortunately, very few data are available which throw light on this question. Such comparisons, as have been made, are limited to the Punjab and may not be sufficiently representative to serve as a basis for generalizations for India as a whole. For this reason, the following data are presented as illustrations of the kind of knowledge which would allow us to draw reliable conclusions concerning the relative costs of cultivation with bullocks or by tractor. In this connection we must keep in mind that the traditional method of ploughing with bullocks does not turn over the soil, but loosens it only to a depth of approximately 3 to 4 inches. The equivalent method of ploughing by tractor would be disk-harrowing. Ploughing by mould board, with the help of tractors, is an operation which

turns over the soil and as such has no equivalent in traditional farming in India. Bullocks are not strong enough to pull a mould board plough. Moreover, the turning over of a relatively thin layer of soil may, in many areas, "plough under" parts of the soil containing the most important plant nutrients. For this reason it would appear that the data contained in the following table, columns 1 and 2 (which states the costs of disk-harrowing by tractor and bullock ploughing) are comparative and relevant for our purposes.

TABLE I
COST OF PLOUGHING BY TRACTORS AND BULLOCKS IN
THE PUNJAB

(Cost per acre in Rupees)*

Type of costs	Tractor ploughing by disk-harrow	Bullock ploughing	Tractor ploughing by mould board
(1) Depreciation on tractors†, bullocks, implements, and shed	1.00	1.02	3.00
(2) Interest on the above	0.54	—	1.74
(3) Repairs, etc.	0.19	—	0.56
(4) Salary of mechanics and drivers	0.35	—	1.29
(5) Unskilled labour	0.02	0.93	0.07
(6) Fuel and lubricants	1.04	—	3.15
(7) Feed and fodder	—	6.88	—
Total	3.14	9.83	9.81

* Source: Data shown are the arithmetic means of farm management data contained in three separate studies published by the Board of Economic Inquiry, Punjab (Publications No. 9 of 1950; Nos. 30 and 35 of 1955).

† Depreciation has been calculated on the assumption of an average life of 7,500 working hours. This will be equivalent to roughly 750 hours of work per year for ten years. The tractors under study were large and costly machines (costing about Rs. 22,000) and were able to disk-harrow three acres per hour. However, these costs may be different for small tractors.

As may be seen from the table, the costs of "ploughing" by tractor (i. e. disk-harrowing) in the Punjab, amount only to 1/3 of the costs of ploughing with bullocks, Rs. 3.14 (\$ 0.66) per acre as against Rs. 9.83 (\$ 2.06) per acre. According to these data it appears that

the costs of disk-harrowing per acre are actually less than the costs of feed required for the bullocks during the time needed to loosen the soil of an acre. Thus, in terms of *operating costs* alone, there seems to be a clear advantage in favour of tractors.

Contrariwise, the operating costs of deep ploughing (by mould board) are almost the same as those of bullocks ploughing; however, as pointed out before, these two operations are not comparable and may lead to radically different results, as far as yields per acre and unit costs are concerned.

If we compare the initial capital necessary for the acquisition of a pair of bullocks with the capital needed for the purchase of a tractor, it is important to remember that, while bullocks have to be paid for by each cultivator, the purchase price for tractors would be shared by all members of the cooperative. For this reason, the capital outlays of the traditional and the mechanical method of ploughing and cultivation can be meaningfully compared only in terms of outlay data calculated per acre. Assuming that a pair of bullocks costs Rs. 400¹⁰ and normally cultivates between 10 to 15 acres of land per year, the fixed outlays per acre of bullock ploughing would vary between Rs. 26 to 40 as compared to only Rs. 10 (i. e. ten times the depreciation charge) in the case of ploughing by tractor.

In the light of this comparison, it would appear that the relative fixed investments per acre cannot be regarded as a major obstacle to the change-over from traditional methods of ploughing to mechanical traction. It is true, the situation is less favourable if we consider that the actual fixed costs of bullocks is lower than is assumed above. Bullocks are usually not bought but raised on the farm, without much consideration of their market or opportunity costs including depreciation; as previously pointed out, they may actually be an object of prestige and status value. However, our general conclusions are indirectly supported by findings in Japan according to which "small farm tractors are cheaper than farm cattle."¹¹

As far as the total capital requirements of the mechanization of Indian agriculture are concerned, the following calculations may

¹⁰ Actual prices vary from Rs. 200 to Rs. 600, depending upon physical conditions and age of the animals, their breed and color.

¹¹ See B. N. Ganguli, "Rural Economic Development in Relation to the Employment Pattern and Occupational Structure", *The Economic Weekly*, Bombay, Vol. XII, January, 1960, p. 197.

serve as rough approximations. Considering that the depreciation charge for tractors and machinery is Rs. 1 (\$ 0.21) per acre and considering further that the total area under cultivation in India is about 360 million acres,¹² the total annual depreciation charge for tractors and farm implements would be Rs. 360 million (\$ 75.6 million). If we assume further that the effective working life of tractors is 7,500 hours, their average life expectancy may be said to be 10 years (or 750 hours per year) or 375 hours for each of the two seasons in India or roughly 100 working days per season of 3.75 hours per day. In the light of these calculations and assumptions, the total investment required for a complete change-over to mechanization would amount to Rs. 3,600,000,000 (\$ 765 million) (or 3.5 per cent of the total investment of Rs. 102 billion anticipated for the Third Five Year Plan).¹³

V. ALTERNATIVE USES OF FODDER RELEASED BY TRACTORS

The use of tractors in Indian agriculture would make it possible to reduce substantially the number of bullocks. This would enable the Indian cultivator to turn to a more diversified form of agriculture in which milk and dairy products can play an important role. While diversified farming and dairy production are nothing new to the Indian farmer, milk production has remained, for all practical purposes, a secondary or even marginal operation. The main reason for this neglect of milk and dairy production is to be found in the fact that cows in India are rather poor milk producers which, apart from the lack of selective breeding, is the result of the lack of sufficient fodder. The replacement of a major part of the bullock population by tractors would release fodder for dairy farming. The corresponding shift to milk animals would have three major indirect effects: first, it would provide an additional source of income for the cultivator; second, it would make an important contribution to a more balanced diet for the Indian population, and third it would maintain the sources of farm manure which is an important problem as long as chemical fertilizers are not produced in sufficient quantities.

These relationships raise several interesting and important questions concerning the quantitative equivalence between amounts of

¹² In this figure the area cultivated twice per year has been counted twice.

¹³ *Third Five Year Plan, A Draft Outline*, Government of India, Planning Commission, New Delhi, 1960, p. 25.

fodder required for the maintenance of bullocks and milk animals on the one hand, and milk output on the other. Available farm management studies indicate that she-buffaloes, which are the important milk-animals in India today, require as much fodder as bullocks, and that heifers require about half the feed consumed by an adult bullock.¹⁴ In other words, the fodder required for three bullocks would be sufficient to maintain two she-buffaloes with one heifer each. Assuming that the average yield of milk per buffalo is about 2,150 lbs. per year, it would follow that the replacement of three pairs of bullocks would make possible the production of about 8,600 lbs. of milk per year or about 2,867 lbs. of milk per pair of bullocks replaced. At a rate of Rs. 0.19 per pound¹⁵ the additional milk produced would yield an income of Rs. 550 (\$ 115) per pair of bullocks replaced per year.

In the light of these data, and if we disregard the fact that bullocks provide such additional services as transport, lift-irrigation, threshing, etc. (for which it is not possible to secure comparative cost data if performed by tractor) it appears that the indirect benefits resulting from milk production alone justifies the replacement of bullocks by tractors. That is to say, if the Indian cultivator has at his disposal a tractor service, he will find it to his advantage to replace his bullocks with milk cattle and use mechanical power on his farm instead of bullock power. It is true our conclusions are based on data that are limited to one region; however, the magnitude of the cost differentials and the indirect benefits in terms of milk production are such as to lend weight to the hypothesis that a change-over from bullock power to tractors would prove highly profitable.

For reasons related to the attitude of many people in India toward the slaughter of beef cattle, the consumption of meat and the production of hides and skins, we shall not consider either the economic or the food value of the additional milk cattle population. However, it is possible to estimate the net effect which the use of tractors and the subsequent shift to dairy farming would have on the total supply of milk and the improvement of the Indian diet. In order to highlight the over-all effects and to simplify our calcula-

¹⁴ D. R. Gadgil and V. R. Gadgil, *Survey of the Wai Taluka*, Gokhale Institute of Politics and Economics, Poona, 1940, p. 46.

¹⁵ This is the rate at which milk is sold in Indian villages. The price of milk in the cities is about double this amount.

tions, we shall assume a complete replacement of bullocks by tractors. According to the 1956 Livestock Census in India, the number of bullocks more than three years old was 60 million. If we assume that these bullocks were replaced by tractors, the fodder released for dairy farming would increase milk production by about 86 billion lbs. of milk per year (each pair of bullocks releases, as we have just indicated, fodder sufficient to produce 2,867 lbs. of milk). Compared with a gross output of 40.3 billion lbs. in 1951,¹⁶ the potential milk output would be more than tripled over and above milk production in 1951 and probably today. Assuming that we are justified in making no allowance for the different years to which these data refer, we can assume further that the availability of milk is likely to be increased by about 300 per cent of what it is today.

Recalculated in terms of per capita figures, the increased output of milk per adult person would rise to 13.3 ozs. per day from ca. 5 ozs. per day per adult in India. Considering that the average requirements of milk for a balanced diet is 10 ozs. per day per adult, the replacement of bullocks by tractors would make it possible to produce enough milk to fulfil these requirements. Such an increase in the output of milk and the resulting adequacy of average milk consumption would have far-reaching repercussions on the total demand for food grains. The continuing pressure of the demand for food grains in India is, at least in part, due to a substitution of grain for such extreme deficiency items as milk, fats and meats in the Indian diet. Whereas output of food grains was 18.3 ozs. per adult per day in 1956/57, as compared with requirements of 17 ozs. per adult per day for a balanced diet under Indian conditions, output of all other foodstuffs was considerably below the requirements of a balanced diet.¹⁷ It is reasonable to assume that a more adequate supply of milk and milk fats would relieve some of the pressure of the demand for food grains which has led to a persistent rise of prices despite the fact that output per capita slightly exceeds the requirements of a balanced diet.

¹⁶ *Second Five Year Plan*, Government of India, Planning Commission, New Delhi, 1956, p. 285.

¹⁷ The following data may serve to show the extent of deficiencies in the Indian diet for a variety of foods. Requirements are given in parenthesis: Average output per adult per day of oil: 0.4 ozs. (2); vegetables 2.6 ozs. (10); meat 0.4 ozs. (4); milk 4.5 ozs. (10); fruit 2 ozs. (3); and sugar 1.6 ozs. (2). *Indian Agriculture in Brief*, Ministry of Food and Agriculture, Government of India, 1956, p. 43.

VI. EFFECTS ON UNEMPLOYMENT

Next we shall consider the effects of the use of tractors on unemployment. Fears that mechanization will aggravate the problem of rural unemployment and underemployment are based upon the expectation that it will lead to a large-scale consolidation of holdings and that, as a result, many small-scale cultivators and owners will be forced to join the ranks of the landless workers. In addition, farm labour used for ploughing with bullocks may become unemployed if tractors are operated by the personnel of the service cooperative. These fears deserve careful consideration.

It may be said that the use of tractors does not necessarily call for a consolidation of holdings. There are tractors which can be used for ploughing economically relatively small-sized plots. A variety of small tractors or so-called swivel-action tillers now in use in the United States and other countries could provide the necessary traction for small plots. Hence, cultivators of small holdings need not be displaced for technological reasons. Generally speaking, however, it is true that owners of larger holdings may find it more advantageous, in terms of relative cost economies, to use mechanical farm implements.

As far as the displacement of farm labour is concerned, it is important to realize that only larger holdings make extensive use of adult farm labour. The effects of a change-over to a tractor economy will be felt primarily by these permanent farm servants rather than by casual or seasonal farm labourers. Usually each extra pair of bullocks calls for the employment of one adult male worker. A change-over to tractors will affect their employment. The great majority of smaller holdings which use not more than one pair of bullocks, do not, as a rule, hire permanent farm servants. Such holdings are usually worked by the cultivator and his family. In these instances the use of tractors may give rise to "underemployment" of family labour without, however, decreasing their earnings. If the released time can be utilized for other occupations, the earnings of the family may actually be increased substantially.

Moreover, farm operations like hoeing, weeding and cultivation have still to be done by human labour and will not be affected by the use of tractors. It is true if tractors were used for harvesting and similar operations, there might be a substantial displacement

of casual and seasonal labour. However, even in these cases, it is important to consider that in some parts of India, and with respect to particular crops such as sugar and rice paddy, harvesting time is frequently a period of acute labour scarcity.

In this context, it is important to consider the compensatory employment effects of the operation and maintenance of the tractors and farm implements. Service cooperatives would require repair shops which would open additional employment opportunities for mechanics and other labourers. Furthermore, additional jobs would become available if the service cooperatives extended their activities to the collection, marketing and processing of milk and other agricultural products.

Finally there is the increased demand for labour due to the production of tractors and their parts, and the distribution of fuel. These are secondary and tertiary repercussions, the extent of which could be estimated only with the aid of reliable input-output tables for which Indian statistics do not, as yet, provide any reliable data. Needless to add that these additional employment opportunities could not be expected to benefit those farm labourers whose jobs may be jeopardized by the introduction of tractors. Hence, there remain residues of social and human costs of transition and growth which call for some form of social insurance.

To sum up, it must be admitted that it is not possible, for the time being, to estimate in quantitative terms, the net indirect effects which the transition to a tractor economy would have on the level of employment. However, it is hardly over-optimistic to state that the long-run compensatory employment effects and the additional demand for labour created within the village economy by service cooperatives and the use of tractors, would be at a relatively higher level of remuneration than the employment lost. The extra income generated and the additional demand resulting from the increased output are bound to create additional employment opportunities which must not be ignored in a comprehensive appraisal of the transition from a bullock to a tractor economy in India.

VII. CONCLUSIONS

Three conclusions can be drawn from the foregoing discussion. First, the potential effects of the mechanization of farm operations in India are such that it is possible to speak of a strong *prima facie*

case in favour of the transition from a bullock to a tractor economy. Admittedly, our estimates are based upon limited data taken from regional studies, and yet our results are such as to warrant the conclusion that the indirect or secondary effects of the mechanization of Indian agriculture are likely to cover the outlays called for by the transition to a tractor economy.

Second, more reliable and detailed estimates of the overall effects of the use of tractors in India can be obtained only through the establishment of pilot projects in different regions of India. Such pilot projects would have to test the reliability of our estimates in the light of actual experiences made in the field. To this effect the various pilot projects would have to conduct benchmark studies in the form of progressive social and farm management surveys; they would have to ascertain alternative cost and return data relevant for the ultimate decision of whether or not the transition to a tractor economy is feasible in India in the near future.

Third, the mechanization of Indian agriculture must be viewed as a major socio-cultural reform. It would be essential that the pilot studies be conducted in such a fashion as to bring to light the major difficulties and obstacles which may stand in the way of a transition to a tractor economy. The pilot projects would have the purpose of demonstrating to the cultivator that the modernization of agriculture will pay off in greater productivity and enlarged economic opportunities without necessarily destroying the social conditions of family and village life. What will be the response of the Indian cultivator to the availability of tractors at lower costs than are currently incurred for ploughing with bullocks? Which incentives must be offered in order to bring about the necessary diversification of the farm economy in the direction of greater emphasis on dairy farming? Which steps must be taken or avoided in order to remove the reasons for the traditional distrust of official policies and in order to enlist the responsible participation of large masses of the rural population? These are only some of the questions which require an answer before it will be possible to arrive at a reasoned decision on this important and vital issue for India's economic development.

The transition to mechanized farming should be considered as an incentive mechanism designed to induce the Indian cultivator to make a variety of private decisions which sooner or later must be made if the Indian farm economy and with it the Indian economy

in general, are to advance and to grow at a cumulative rate. The inducements which are called for must serve as bridges between such macro-economic decisions as the decision to manufacture tractors and the establishment of tractor service cooperatives in the Fourth Five Year Plan, and the micro-economic decisions by which the cultivator has to substitute tractors for bullocks, and to expand his output of dairy products. Without incentives and without an adequate framework of social and administrative reforms, it is unlikely that cultivators will be willing to pool their resources, to accept the new discipline which the mechanization calls for and to take advantage of the lower costs of ploughing and the new opportunities of increased production for steadily expanding markets. The problem is an old and indeed perennial one: Namely, how to enlist the voluntary cooperation of a large number of individuals in a common effort essential for social and economic reconstruction.

APPENDIX

Note on Foreign Exchange Requirements

As far as the additional import and foreign exchange requirements are concerned, the following estimates may give a tentative indication: manufacturing of tractors does not seem to differ radically, as far as design and optimum size of plant are concerned, from that of the production of automotive vehicles in general. As far as automobiles are concerned, about 80 per cent of the value of the parts are expected to be manufactured in India in the near future.¹⁸ In other words only 20 per cent of the value of automobiles would have to be imported. Using the same percentage for tractors, the import and foreign exchange component of the total capital outlays would be Rs. 72 million per year.

According to the Punjab studies referred to above, the average requirement for fuel and lubricants are Rs. 1.04 per acre. This would mean that the overall requirements of the country will amount

¹⁸ "To reach the targets of production of automobiles without excessive and continued strain on foreign exchange resources, it will be necessary to achieve at least 85 per cent indigenous content by 1965-66 as compared with less than 60 per cent at the start of the Third Plan." *Third Five Year Plan, op. cit.*, pp. 224sq.

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to Rs. 380 million per year. Even if we assume that the import component may amount to 50 per cent of the total retail value, as far as fuel and lubricants are concerned, the additional foreign exchange requirements on this account would be Rs. 190 million (\$ 40 million). The total value of additional imports required would amount to Rs. 262 million per year (\$ 55 million) or not more than 2.5 per cent of India's average annual imports for the first four years of the Second Five Year Plan.¹⁹

The foregoing estimates assume that the additional fuel requirements for tractors are met exclusively from foreign sources of supply. Recent discoveries of oil in various parts of India (Assam, Gujarat, and Northern Punjab) justify the expectation that India's dependency upon imports will be reduced considerably, if not actually overcome in the not too distant future, in which case, no or little foreign exchange would be needed for fuel.

¹⁹ "For the first four years of the second plan, imports have averaged Rs. 1,050 crores per year while exports have been around Rs. 610 crores per year." *Ibid.*, pp. 78sq.

PART III

ECONOMIC PLANNING : PROBLEMS AND CRITERIA

VIII

FRIEDRICH LIST'S CONTRIBUTION TO THE THEORY OF ECONOMIC DEVELOPMENT*

TO LIBERATE oneself from old doctrinal predilections and to strike out on a new course without losing one's balance is more difficult than to follow traditional ways of thinking. Indeed, it has always been "much easier to be a conformist than a competent rebel."¹ A good example of competent intellectual rebellion against an entrenched system of thought may be found in the work of Friedrich List. List grew up in an underdeveloped country on the continent and spent some of his formative years during the early nineteenth century in close contact with the equally underdeveloped economy of the United States. As an independent thinker List was able to separate what was useful in classical political economy from the ideological elements which limited its relevance for the study of the comparatively backward economies of Europe and America. In fact, he was able not merely to criticize the old but to build a new system of analysis which provided a fruitful alternative theoretical framework. The fact that List's ideas emerged from his contact with problems faced by underdeveloped countries of his time makes his work of special interest to the present generation of economists in the underdeveloped world.

Friedrich List made a fundamental attack on some of the most basic premises and concepts of classical political economy. He widened the scope of economic and social analysis by establishing closer links between economic theory and political science. Indeed it is no exaggeration to say that List is one of the early social scientists whose conceptual framework is interdisciplinary and, had it been further developed, would have led to a considerable integration of social knowledge.

The starting point of List's analysis is his critique of what he calls the "cosmopolite" bias of the classical school. Far from opposing the ideal of perpetual peace in a universal republic under

* Reprinted with the permission of *The Political Science Review* (University of Rajasthan), Vol. I, No. 1, 1962, pp. 17-22.

¹ G. Myrdal: *Economic Theory and Underdeveloped Regions*, London, Gerald Duckworth and Co. Ltd., 1957, p. 104.

a world government, he nevertheless rejected those economists and publicists who viewed the nation as a theoretical fiction. The refusal to recognise the existence of nation-states is equivalent, List emphasized, to assuming that the problem of world peace and world organization is solved, while it is actually still far from being solved. Indeed, political economy which supports the doctrine of free trade commits the political blunder of confusing what is desirable and ought to be with the actual conditions of the world. Without a universal republic the peace of the world and the relationships between nations will always remain precarious because they can be shattered by the decision of a single nation. A political union is a prerequisite not only of peace but of free trade which can be practised safely only under conditions of a universal republic. Therefore, the logic of scientific inquiry, according to List, calls for a system of political economy which takes its point of departure from the idea of the existence of separate nations. Instead of rejecting the lessons of politics and reducing economic theory and economic practice to a mere routine derived from the doctrine of free trade, the true mission of political economy is to educate the nation in economic affairs and to show the less advanced nations the means by which they can elevate themselves to the degree of wealth and civilization of the most advanced countries in the world.

It is this broad vision of the actual conditions of different economies which induced List to develop his theoretical system of national protectionism which directly or indirectly guided the economic policies of the comparatively less advanced nations during the 19th century and which has not lost its relevance even today.

In developing his system of political economy Friedrich List was able to anticipate two major lines of thought which have recently been developed in greater detail. The first is the concept of cumulative causation and "domination" by free trade. The second is the theory of productive forces and social returns which, as we shall show, carries a strong institutional flavour. List argued that, "in the actual state of the world, free trade would bring forth, instead of a community of nations the universal subjection of nations to the supremacy of the greater powers in manufactures, commerce, and navigation."² Indeed, England's industrial and commercial

² Friedrich List, *National System of Political Economy*, G. A. Matile, Tr. 1856 as reprinted in S. H. Patterson. *Readings in the History of Economic Thought*, New York, McGraw Hill Book Company, 1932, p. 385.

supremacy would exert such strong backwash effects that it would become the manufacturing centre of the world, and the rest of the nations of Europe would be condemned to furnish only the raw materials, the wine, the toys for children and, at the most, articles for the world of fashion. That is to say the international economic inequalities which separate the world into poor and wealthy countries would increase rather than decrease. The only remedy against this increasing trend toward international inequality resulting from free trade is the national or protective system. "The protective system is the only means by which nations less advanced can be raised to the level of that nation which enjoys a supremacy in manufacturing industry—a monopoly not conferred by nature but seized by being first on the ground."³ There is no need to develop List's challenge to the inherited doctrine of free trade as it is well known and widely applied, as well as misapplied. Suffice it to state that List's doctrine of protectionism as one of the preconditions of economic development for the less developed countries is in effect a denial of the efficiency of the price mechanism as a reliable guide to economic growth. By showing that international free trade would retard if not actually inhibit economic development in the underdeveloped world, List advanced a theory of economic growth which places the emphasis on planned and simultaneous (i. e. balanced) development of manufactures and agriculture in traditional or predominantly agricultural economies.⁴ Fully in harmony with his theories of protectionism as part of a policy of economic development, List played a major role in the early struggles for a common market protected by a customs union (*Zollverein*) and suggested a system of preferential duties as an inducement mechanism to bring other countries (such as Holland and Denmark) into the larger free trade area. In this respect too he anticipated ideas and policies which have come to fruition in Europe after the Second World War and may soon have to be seriously explored in South East Asia, Africa and South America.

What are the nature and causes of wealth? In opposition to the classical school which identified production and wealth with the creation of material things which could be sold and bought, List showed that both concepts (i. e. wealth and production) must be given a much broader connotation, if political economy is not to run into the most

³ *Ibid.*, p. 386.

⁴ See especially Ch. 5 of *The National System of Political Economy*.

acute contradictions and inconsistencies. National prosperity (i.e. economic development) does not depend simply on the quantity of material things with exchange value but on a host of other conditions and prerequisites among which, according to List, the following figure prominently: the political conditions of society (such as security of person, liberty and justice), the absence of arbitrary rule and servitude, the state of science and art (discoveries, inventions, improvements and the accumulated intellectual and physical capital), the ability of the present generation to assimilate and digest these achievements of preceding generations and to adapt them to productive purposes, the elimination of superstition and ignorance characteristic of rural areas, the development of rational attitudes and the comprehension of the conditions of human existence and the causes of poverty and misery, an effective system of local administration and self-government, public decision-making subject to public control and full publicity, constitutional government and, last but not least, an effective system of transportation and of other social overhead capital such as educational facilities. These institutional and socio-cultural factors are the "productive forces" which the underdeveloped countries are lacking and which determine whether a nation will be able to develop agriculture and raise it to the rank of an industry, and which would make for a balanced development of agriculture and manufactures.

As a matter of fact List attributed strategic importance to institutional factors as prerequisites of economic development; he placed them far ahead of population,⁵ the division of labour, capital formation, the diminishing fertility of a given area of land and the declining tendency of the rate of profit which the classical school had singled out as causes of, and obstacles to economic development. Indeed List's national system of political economy is in its practical and normative implications an appeal to underdeveloped nations to

⁵ For the Malthusian population theory List reserved his most scathing criticism. "It [the theory of Malthus] enacts into law the harshest egotism, it asks us to shut our hearts and our hands against the hungry, for in giving them food and drink, we may be the cause, perhaps, that thirty years hence another may be famished. It substitutes calculation for pity. Such a doctrine would change the hearts of man into stones. And what should we expect from a people with hearts of stone, but the complete ruin of morals, and consequently, the destruction of productive power, the loss of capital, civilization, and the political power of the country?" *Ibid.*, p. 387.

consider of primary importance what the classical school and model builders assume as given and leave outside their analysis.

"A nation" List wrote, "ought to make the sacrifice and bear the privation of material riches, to acquire intellectual and social power; it must sacrifice present advantages to secure future benefits."⁶ It must be ready to accept the temporary sacrifices resulting from higher costs due to protective tariffs. Such sacrifices will be "amply compensated by the acquisition of a future productive power which insures not only a larger product of wealth in the future but also greater industrial independence in case of war or adverse commercial regulation."⁷ In short, the nation must be ready to invest in social overhead capital long neglected in underdeveloped countries and it must be willing to improve its institutions at home. Above all, it must beware of gifts in the form of subsidies or low-priced imports. For these operate as premiums of exports from the donor and to the detriment of the recipient whose industries will not improve but may actually be ruined in the long run. And indeed "who would console himself for the loss of an arm by the fact that he could purchase his shirt 40 cents cheaper?"⁸

The key elements of List's economics which account for its continued relevance are his realization that in the actual state of the world it would be fatal to act on the assumption that the problem of world government and universal peace has been solved; that free trade and the price mechanism perpetuate and even increase international economic inequalities; that a system of economic protectionism and interventionism in general is essential to overcome economic backwardness; that what retards economic development are not so much poverty and shortages of capital but institutional defects which need to be removed in order to insure the success of the development process; and that the classical search for levels of equilibrium in terms of exchange values and the price mechanism fail to take account of important productive forces and social benefits. Contemporary economic analysis is just catching up with these broader social benefits. The fact that we still call them "external" economies is an indication of the slow pace at which we have moved since List (and Lauderdale before him) first called attention to the social and privately inappropriable aspects of wealth and welfare.

A man who was able to free himself from old doctrinal predilections and to strike out along new paths is bound to make mistakes

⁶ *Ibid.*, p. 397.

⁷ *Ibid.*, p. 397.

⁸ *Ibid.*, p. 398.

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and to provoke critics. Thus List has been called "an economic nationalist" (which he was), "the intellectual father of German fascism," (which he was not), a "socialist" (which he may have become). Viewed as a social scientist List undoubtedly had a unique understanding of political processes and a vision of the specific conditions and requirements of different economies in different stages of development, an understanding which is the prerequisite of scientific greatness and scientific originality in the social sciences.⁹ What also accounts for List's lasting relevance is his ability to identify the ideological and normative premises of classical political economy. Whatever our judgment, there can be no doubt that List owed his intellectual achievements to his penetration of and response to the economic problems of the underdeveloped world of his time. For this reason he may well serve as an example and an inspiration for the younger economists of India to become competent rebels rather than conformists to the inherited doctrines of the West.

⁹ This was also the judgment of A. Marshall see *Principles of Economics*, 8th ed. London, MacMillan and Co. Ltd., pp. 623-33 and J. A. Schumpeter: *History of Economic Analysis*, New York, Oxford University Press, 1955, p. 504.

IX

SOCIAL COSTS AND SOCIAL BENEFITS— THEIR RELEVANCE FOR PUBLIC POLICY AND ECONOMIC PLANNING*

SOCIAL COSTS and social benefits are phenomena which transcend the traditional scope of economic theory. For this reason they have remained at the periphery of economic analysis. Indeed, they raise issues which can only be disturbing to those who are convinced of the fundamental efficiency of the economic process in a system of business enterprise. For the neglect of social costs and social benefits by the price mechanism sets the stage for considerable social inefficiencies in the allocation process which go far beyond the limitations usually conceded by neoclassical economics. The theory of social costs and social benefits raises some of the most fundamental and critical issues not only with regard to the substantive rationality of the price system but also with respect to the use of formal concepts and formal optima, the importance of quantification in monetary terms and the relevance of pure economics for the formulation of economic policies, and economic planning in general. In fact, the theory of social costs and social benefits lends support to those who have long argued in favour of an integrated institutional approach for the study of economic phenomena.

The present essay is concerned with a number of questions which deal with such issues as the proper classification and definition of social costs and social benefits as well as their quantitative measurement. In addition, we shall discuss some of the normative implications of social costs and social benefits for the formulation of economic policies and economic planning.

PROBLEMS OF DEFINITION AND CLASSIFICATION

Definitions and classifications are never of secondary importance. They are basic and usually of far-reaching significance in their

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ultimate theoretical and practical implications. Concepts are tools which permit us to organize social facts into a general pattern. They guide our observations and experiences and help us to establish some preliminary order. At first our original notions reflect the uncertainty and indefiniteness which surrounds the beginning of all scientific thought. It may be said that such indefiniteness is unavoidable in new concepts and may even account for their fruitfulness as a tool of analysis. As the concepts are used and developed in the study of concrete social phenomena they gain in precision. Clearly defined concepts are prerequisite tools for the intellectual preception of reality and the formulation of satisfactory hypotheses.

The concepts of social costs and social benefits are not freely invented fictitious notions that have no counterpart in reality. On the contrary, they have their origin in observable social phenomena. As a matter of fact, they refer to a variety of disutilities and "external" economies with identifiable common characteristics. While these concepts are based upon a critical examination of empirical phenomena they are not simply descriptions of such phenomena and experiences. They are carefully formulated "images" or representations of reality created for the purpose of theoretical interpretation. They abstract by simplifying or "condensing" common characteristics of phenomena grouped as a class and render more precise what otherwise would remain ambiguous and obscure.

It might be argued that if the concepts of social costs and social benefits refer to a variety of social diseconomies and (external) economies which arise under different circumstances they lack a sufficiently clear meaning or definition. Such, however, is not the case. Indeed, the fact that social costs and social benefits arise under different conditions does not mean that the concepts are necessarily imprecise or vague. The precision of an analytical concept depends upon the clarity with which it is possible to define the common characteristics of the empirical instances to which the concept refers. If uniqueness of empirical conditions and quantification were to be made the prerequisites of all scientific concepts we would have to abandon any attempt at generalization in the social sciences. Or, more specifically, we would have to develop separate concepts for each kind of social disutility and social benefit depending upon the specific situation in which they may arise. This would be equivalent to a concentration on particular

events or the end of theory in social inquiry. It would involve a return to a radical and naive empiricism which lacks generic terms and concepts and which develops different verbal expressions for each particular process. No doubt, it will be difficult and sometimes impossible to attribute an unequivocal quantitative value or importance to disutilities or benefits under consideration but this is a problem of quantification which must be distinguished from the need for clarity in the formulation of concepts.

Specifically what are social costs and social benefits? What are their common characteristics? Do we possess as yet a satisfactory classification of social and private costs and of social and private benefits? Is such a classification possible? Social costs can be defined as harmful effects and damages sustained by the economy as a result of private productive activities. Social costs may take the form of a variety of "diseconomies", increased risks and uncertainties which may extend far into the future. What makes these diseconomies *social* costs is the fact that they are borne by third persons or by society. In this sense they are indeed "external". Of course, the term external is relative. What is "external" depends upon the degree of consolidation of industry. Furthermore, if production becomes centralized the unit of investigation is the entire economy; in this case the term "external" loses its meaning altogether for all costs would be internal. However, even under these circumstances we may speak of social costs in the sense of wasteful outlays, avoidable inefficiencies, and harmful effects on public health and public wealth.

These considerations also throw light on another aspect of social costs: the general interdependence of all parts of the economy makes it likely that, with any given level of vertical and horizontal integration, social costs caused by a particular firm may adversely affect not only third persons but other entrepreneurs and may even adversely affect the firm originally responsible for their occurrence. For instance, the social costs of air pollution are borne by everybody, including the entrepreneurs who originally contributed to it. They as well as other firms will see their private costs increased by the negative effects which air pollution may have on the health of their workers and the value of their property. In this way part of the "social" costs are absorbed into private costs. In still other cases the social costs may assume the form of unnecessarily higher private costs of production. This happens, for example, when the

competitive race to exploit an oil pool leads to a technically inefficient spacing and multiplication of oil wells. In this case the social diseconomies take the form of unnecessary capital inputs which, together with the subsequent loss of natural gas and reservoir pressure, constitute an increase of production costs. Similarly, in the case of soil depletion and erosion the attempts by farmers to minimize *current* costs has the effect of increasing future costs of cultivation. In all these instances at least part of the social costs take the form of higher private costs. However, do these examples affect the usefulness of the distinction between private and social costs? If private enterprise internalized the total or a major share of the social costs caused by its productive activities the distinction would be less than fully satisfactory although even then it would not entirely lose its significance. We would be faced with a kind of joint costs, that is social costs which due to economic and technical interdependencies of the productive process, are at least in part reflected in higher private costs of production. Actually, however, we are confronted with a different situation. For example, that part of the social costs which are caused by air and water pollution and borne by the firm whose productive activities contributed to the pollution of the atmosphere (or river) is rather small—if compared with the total of the social losses sustained by the community. Admittedly, the proportion of “internalized” social costs may be higher in the case of duplication of capital costs and the losses of reservoir pressure in the oil industry or the depletion and erosion of the soil in agriculture. But even in these cases the original distinction does not lose its usefulness if we consider that the increased private costs are avoidable and are actually passed on to the community in the form of higher prices. They are damages or diseconomies sustained by the economy in general which could be avoided under different institutional conditions. For, obviously, if these costs were inevitable under any kind of institutional arrangement they would not really present a special theoretical problem. We are thus led to the conclusion that in order to reveal their origin the study of social costs must always be an institutional analysis. Such an analysis raises inevitably the question of institutional reform and economic policy which may eliminate or minimize the social diseconomies under discussion.

Turning to the problem of social benefits we are faced with similar issues of definition and classification. For the term social benefits

refers to all those utilities and "returns" which tend to accrue to society either as a result of institutional arrangements or are due to private productive activities. Like social costs these broader social benefits belong to those omitted aspects of reality which classical political economy did not succeed in incorporating into its theoretical framework. It is true that Adam Smith developed a theory of social benefits in connection with his doctrine of public institutions and public works which, "though... in the highest degree advantageous to a great society, are, however, of such a nature, that the profit could never repay the expense to any individual or small number of individuals and which it, therefore, cannot be expected that any individual or small number of individuals should erect or maintain."¹ Lord Lauderdale and Friedrich List pointed to essentially the same kind of social benefits in their critical doctrine of "public wealth" and "productive forces." Later Henry Sidgwick called attention to useful services which were "incapable of being appropriated by those who produce them or who would otherwise be willing to produce them."² J. B. Clark developed a theory of non-competitive economics based upon the principle of "inappropriable utilities" which "flee from him who creates them and diffuse themselves among the members of the community."³ Even Marshall's "external economies" may be considered as social benefits which accrue to every firm and for which no remuneration can either be charged or need to be paid.⁴ These earlier discussions of social returns remained isolated attempts which moreover were never systematically developed.⁵

¹ Adam Smith, *An Inquiry into the Nature and Causes of The Wealth of Nations*, New York, Modern Library, 1937, p. 681.

² Henry Sidgwick, *The Principles of Political Economy*, Book III London, Macmillan and Co., Ltd., 1901, p. 412.

³ J. B. Clark, *The Philosophy of Wealth, Economic Principles Newly Formulated*, Boston, Ginn and Company 1885, p. 215.

⁴ However, it is at least doubtful whether Marshall's narrower concept of external economies which after all was developed only to refer to the favorable effects external to the firm but internal to the industry can be and should be made to denote also the much wider ramifications of social benefits which accrue to all members of society. Neither the theory of external economies nor modern welfare economics seem to be able to cope adequately with these broader socio-economic benefits.

⁵ Only recently has the concept of external economies given rise to a body of literature which questions the validity of market criteria for the planning of investments in underdeveloped countries. See: H. Leibenstein, *Economic*

Social benefits differ from private utilities and private returns by virtue of the fact that they cannot be divided or withheld. Once produced, everybody benefits and nobody can be excluded. In short, social benefits accrue to all members of society. This inability to divide or to "monopolize" even a share of social benefits reflects not only the existence of basic economic and technological interdependencies within the economy but is also due to the fact that some of the most important internal and external security needs as well as cultural requirements are collective in character. That is to say they concern all members of society and their gratification automatically benefits every individual. Whenever we are confronted with social needs or public interests or purposes we enter the field of social benefits and the legitimate sphere of government, which is "to do for the people what needs to be done, but which they cannot by individual effort, do at all, or do so well, for themselves."⁶

Without taking account of these indivisible social needs and social benefits it is impossible to arrive at an understanding of the scope of the public economy and public investments and of the formulation of economic policies whether in economically advanced countries or in the underdeveloped world. While we cannot enter into a detailed discussion of the concept of social benefits it is possible to raise the question of whether we can ever hope to distinguish them from private benefits or individual utilities. Does the fact that social benefits accrue to all members of society (or that external economies in the form of lower costs and cost advantages can ultimately be internalized in the cost and price structure of private firms including perhaps the firm which originally contributed to the external economies) militate against the distinction between private and social benefits? No doubt, it may be difficult to disentangle social and private benefits. But "in practice" the whole process of dynamic socio-economic development may be said to consist in nothing else but a continuous incorporation of social or external benefits into private costs and private benefits. As a matter of fact all benefits and utilities may be said to be experienced only

Backwardness and Economic Growth, New York, John Wiley, 1957, J. E. Meade, "External Economies and Diseconomies", *Economic Journal*, March 1952, pp. 54-67; and Tibor Scitowsky, "Two Concepts of External Economies", *Journal of Political Economy*, April, Vol. LXII 1954, pp. 143-151.

⁶ Fragment on Government, July 1, 1854 (?), *The Collected Works of Abraham Lincoln*, R. P. Basler (ed.), vol. II, New Brunswick, N. J., Rutgers University Press, 1953, p. 221.

by private individuals. It is *their* needs and requirements that are satisfied. Surely this common sense realization does not make the distinction between private and social benefits useless or unsatisfactory. The fact that in reality everything can be shown to be interrelated cannot be held against the distinction as long as the latter points to significant and practically relevant characteristics by which phenomena can be classified and separated from one another. Social benefits are indivisible and hence elude him who produces them; they accrue automatically to everybody. Their systematic production calls for social action by specialized public agencies which are concerned with the formulation of social goals and public purposes. In short, since they will not be produced by private firms their creation presupposes a collective decision. We are thus led to the inevitable question of the objectivity with which social benefits (and social costs) can be defined.

THE OBJECTIVE CHARACTER OF SOCIAL COSTS AND SOCIAL BENEFITS

Is it possible to identify and define social costs and social benefits objectively? Can these extra-market phenomena be defined only in terms of a given set of ultimate ethical postulates and ultimate values which are beyond the scope of any scientific treatment? Are we inevitably faced with a plurality of possible points of view and an infinite number of possible standards of value when we attempt to identify and define the social costs and social benefits which the market system tends to ignore or neglect? Or more specifically, do we abandon the realm of the objective, that is, of scientific validation and refutation when we concern ourselves with social costs and social returns? Do we enter the realm of purely subjective and ideologically tinged judgments? Do we open the door to what Max Weber called the "ethics of conviction" with its unconditional and uncritical devotion to an absolute idea and fixed aim which leads man to do what he believes to be right without asking what the consequences are? Or do we stay firmly in the realm of the "ethics of responsibility", in Max Weber terminology?

⁷ Max Weber, "Politik als Beruf", in *Gesammelte Politische Schriften* Munich, 1921, p. 441 ff. On the potential conflict between the two "ethics" see F. H. Blum, "Max Weber: The Man of Politics and the Man Dedicated to Objectivity and Rationality", *Ethics*, LXX, No. 1, October 1959, pp. 6-9.

—with its implicit demand for an objective evaluation of the situation as it really is and the insistence that our judgments remain subject to empirical validation and refutation? In short do we keep the door open for the possibility of disproving our evaluations? It is in this fundamental and pragmatic sense of susceptibility to revision in the light of experience and of the empirical test that we shall use the term “objectivity” in the following discussion.

As a first step it is important to recognize the purely formal objectivity of market values. It is true that market values are numerical and quantitative. As such, they can be added and compared in terms of operations which are simple and easily understood. But their numerical character which enables us to compare and measure them unambiguously in the formal sense of all mathematical operations conceals their substantively more or less arbitrary character. Both Max Weber and Veblen⁸ (and of course many others since) recognized this clearly by referring to advertising and the effects of sales publicity on consumers’ wants and commodity prices. Moreover, Max Weber, and again many others before him and since, have been explicit in showing that money prices are the outcome of market power, conflicts of interests and compromises. For this reason, market values, although expressed in numerical terms “without a wholly subjective valuation”⁹ are substantively speaking far from being unambiguous and objective. Indeed, in a world of oligopolistic price-fixing they are as devoid of “objective” validity as many of the subjective value judgments which Weber considered to be in principle beyond the scope of scientific validation.

What do we mean by “formal” and “substantive” and what is the bearing of these terms on the objectivity of the definition of social costs and social benefits? Following Max Weber we shall use the term “formal” with reference to quantitative calculations or ac-

⁸ Whereas Max Weber speaks of the fact that to “a large degree the consumers’ wants are ‘awakened’ and ‘directed’ by the entrepreneur”, Veblen speaks of “the fabrication of customers” through the production of systematized illusions by experts and experimenters in applied psychology (and) creative psychiatry, who play on various infirmities such as human credulity in general and the fear of losing prestige and the anxiety engendered by mortal disease in particular. T. Veblen, *Absentee Ownership and Business Enterprise in Recent Times—the Case of America*, New York, The Viking Press, 1923, pp. 307-10. The reference to Max Weber is to *The Theory of Social and Economic Organization* (T. Parson, ed.) New York, Oxford University Press, 1947, p. 193.

⁹ *Ibid.*, p. 203.

counting in numerical terms. The prototype but not the only kind of such calculation is "capital accounting" (Kapitalrechnung) which establishes the numerical profitability of an investment. Substantive rationality on the other hand measures the extent to which a given group of persons is or could be adequately provided with goods by means of an economically oriented course of social action.¹⁰ The identification of social benefits and social costs is not so much a problem of formal calculation as it is a matter of ascertaining actual human and social requirements or actual damages and harmful effects. When we try to determine the social benefits or social costs we are not concerned with a numerical profitability or a marginal importance attributed by an individual or a group of individuals to particular utilities or disutilities. Instead, we are aiming at an identification of substantive social needs and actual social damages and inefficiencies. Such identification calls for careful empirical research. What has been described as the starving of the public sector in modern affluent societies is not removed from objective analysis and the scientific test. For example, the recognition of the need for additional educational and housing facilities is not simply a matter of changing ultimate values based upon ambiguous ethical postulates. Such recognition is rather the outcome of a better understanding of growth correlations and the tendency toward social imbalance promoted by the traditional reliance on formal calculations in the allocation of resources. Similarly, the progressive congestion of traffic arteries to and within our expanding metropolitan areas as well the heavy expenses incurred for urban renewal and redevelopment are the outcome of a regional polarization which is characteristic of urban growth in the absence of zoning and regional planning. Under such conditions, industrialization, migration and natural increases of population combine to bring about the irrational overconcentration of the modern city.¹¹ That is to say the progressive deterioration of transportation systems, the continued shortages of adequate housing, education and hospital facilities even in the richest country of the world is the outcome of a

¹⁰ *Ibid.*, p. 185. The important distinction between "formal" and "substantive" has been further developed by E. Egner, *Der Haushalt, Eine Darstellung seiner Volkswirtschaftlichen Gestalt*, Berlin, Duncker und Humblot, 1952; and K. Polanyi, "The Economy as Instituted Process", in K. Polanyi et al. (eds.) *Trade and Market in the Early Empires*, The Free Press, Glencoe, Ill. 1957, pp. 243-70.

¹¹ Lewis Mumford, *The City in History*, New York, Harcourt, Brace and World, 1961.

refusal or an inability to draw up in time an inventory of substantive needs and foreseeable trends and to project these trends into the future with a view to determining the respective requirements as a basis of public planning and investment decisions. There is nothing mysterious about these growth correlations. They are the outcome of technical and economic interdependencies (complementarities) between an expanding population, the corresponding needs for housing, education, medical care and transportation. What is required is a projection into the future of the role which private automobiles, railroads, buses, and trucks are going to play in meeting expanding transportation needs. Furthermore what is called for is a concentration of the authority to make decisions in the hands of a single agency rather than a number of departments and authorities each operating under different rules and controls.¹²

Growth correlations and technical interdependencies are also useful for the determination of social benefits and social requirements. The following illustrations may give a concrete idea of what we have in mind.

Underdeveloped economies are marked by regional imbalance and the lack of adequate overhead capital. Among the means to overcome this type of imbalance are regional development schemes which may serve a variety of purposes such as the production of electric power, the storage and discharge of water in accordance with requirements of flood control, the development of inland water transportation—in short the promotion and attainment of the transformation of the economy of the region. That is to say a multipurpose water utilization scheme produces joint products at joint costs. The economic success or failure of such a scheme depends upon the coordination of the various parts, which is to a large extent a technical problem. The ramifications of these technical interdependencies are so wide that it is possible to present here only a limited picture. The determination of the site for a dam and reservoir for example is a matter of physical comparisons in terms of technical criteria requiring detailed surveys of the catchment area (as to its annual run-off, the availability of fertile land and its suitability for farming in terms of its drainage conditions, and the number of people affected by the inundation behind the dam). The construction of the dam usually calls for the erection of new facilities for workers connected with the project. The production of electricity calls for provision of a grid system to distribute power over a considerable area. The distribution of water for irrigation purposes makes no sense without the construction of distributaries, canals and irrigation ditches (and, in some instances pumping stations) through which the water can reach the fields. More than this these distributaries must be con-

¹² This is the case for example in New York City where eleven agencies are responsible for problems of transportation. See letter by Dr. Lyle Fitch, Former City Administrator, April 16, 1961, *The New York Times*, April 17, 1961.

structed and maintained in such a fashion as to minimize seepage. Provision must be made for malaria control as the increased supply of water may easily increase the incidence of the disease. Moreover irrigation farming calls for greater use of fertilizers in order to be physically effective and economically efficient. In order to prevent premature sedimentation of the reservoir proper erosion control schemes (e.g. anti-erosion benches throughout the catchment area) will be needed. If the water is made available free of charge, it may be wasted by the cultivator, with disastrous consequences in terms of water-logging, the seepage of soil-destructive salts to the surface and the promotion of water-carried diseases. If on the other hand water rates are too high, they may act as a disincentive for a farm population used to "gamble in rain". The result would be unused capacity of an expensive capital good just as delays or lack of coordination of the various technical phases of the water utilization scheme would imply underutilization of the stored water. These technical and economic interdependencies call for a physical coordination which in turn determines the objectives of rational social action. If these interdependencies are permitted to serve as a guide to action, utilization of capacity will be guaranteed which in this case means not only high benefits at low costs but a speedier readjustment and transformation of the regional economy.¹³ In short, a regional development scheme is a physical and economic unit and must be treated by social science as a unit of investigation and planning; it calls for consideration of all physical and economic aspects simultaneously. If it is so treated and planned it is bound to attain its overall level of efficiency (substantively speaking) in the shortest possible time. The principle of substantive rationality calls therefore for a solution of the problem of socio-technical coordination since otherwise valuable capital investments would stand idle and be unable to make their full contribution to the development process.

Another basis for the determination of substantive needs is the elaboration of social minima. Admittedly, opinions may differ when it comes to the establishment of such social minima. And yet in practice the area of agreement may be much greater than we usually assume. Here again empirical research can provide us with the necessary data for the identification of and a basis for the evaluation of substantive needs and benefits. Once more an example from the underdeveloped world may serve to illustrate our point. In India about 2 million people die every year of cholera, typhoid, dysentery and other water-carried diseases and one seventh of the country's total population suffers ailments caused by an unprotected water supply. Public health experts estimate that 75 percent of the diseases would disappear if a protected water supply and sanitary faci-

¹³ For a discussion of cases in which the neglect of the technical and economic coordination problem has led to serious underutilization of the reservoir see René Dumont, *Types of Rural Economy—Studies in World Agriculture*, New York, Praeger, 1957, p. 199.

lities were provided.¹⁴ While the mere identification of the situation does not eliminate the need to choose—for similar deficiencies may exist in education, hospital care and other parts of the public sector—it cannot be denied that the exploration of social needs objectifies them.

Similarly, the identification of social costs is not a matter of subjective-ideological commitment to this or that programme of social reform but a matter of empirical research. In fact, whether a particular loss or damage is a social cost depends at any given time on the state of our knowledge. As long as the causal relationship between specific productive activities and specific disutilities is not understood we do not know whether or not we are confronted with a case of actual social costs. For instance there may be diseases whose occupational origin has not yet been recognized by our present medical knowledge. Only further advances in medical research will enable us to establish these causal links.¹⁵ This possibility is not confined to the impairment of the human factor but applies also to other categories of social costs. We may speak of hidden or concealed social costs which are recognized only when scientific research identifies the relationship between a particular negative effect and specific productive processes or their products.¹⁶ An advancing industrial technology is bound to expose its labour force to new materials, new processes and new products and thus is likely to widen the range of actual social costs. In short the identification of social costs and social benefits derives its objectivity

¹⁴ See *The Economic Weekly*, Bombay, May 21, 1960, p. 758.

¹⁵ A case in point is the increasing suspicion that respiratory diseases including cancer of the lungs may be causally related not only to smoking but also to exposure to a polluted atmosphere—a suspicion which 10 years ago still seemed to be so questionable that I refrained from mentioning it in my analysis of the social losses of air pollution. Another illustration is provided by industrial noise. Current researches in the United States have shown that short-term exposure to industrial noise of high intensity can produce a hearing loss that may be transitory in nature but if the exposure is sufficiently prolonged and severe, loss may become permanent. In other words a temporary short-term exposure repeated over a certain time may make a specific noise situation into a long-term hazard. See studies reported by H. J. Magnusson, Chief, U.S. Public Health Service, *Scope Weekly*, Sept. 2, 1959, p. 3.

¹⁶ The widespread and increasing use of toxic chemicals and pesticides (such as insecticides) in modern agriculture and the various preservatives, anti-oxidants, mould inhibitors, coatings, colour additives and bleaches, substitutes, etc. in the food processing industries and various drugs have long been suspected of causing human diseases although these relationships are not yet fully understood.

from an orientation toward a substantive rationality which reflects the extent to which a given group of persons is or could be adequately provided with goods and services, or protected against unnecessary losses.

In contrast to Max Weber we suggest that the substantive definition of social costs and social benefits is possible in terms of objective requirements which do not depend upon an infinite number of possible subjective standards (or an "infinite plurality of possible points of view")¹⁷ but can be determined with a considerable degree of scientific objectivity. That is to say, the identification of social costs and social benefits calls for scientifically determined social minima and an awareness of economic and technical growth correlations which link private wants and public needs on the one hand and which trace the physical interdependencies between private productive activities and external diseconomies on the other. No doubt such a substantive orientation to economic life and economic action commits the economist to a new and broader perspective of the relationships between the economic and the noneconomic. What seems to be a perfectly reasonable distinction from the perspective of a purely formal orientation turns out to be misleading and untenable as soon as we deal with concrete situations in a substantive way. When we inquire into the actual state of want satisfaction all levels of social existence must be viewed as intrinsically and reciprocally interrelated. The political, the socio-cultural and the economic represent a unitary whole. Changes on one level affect all other levels of this interrelated structure. Indeed the conceptual distinction between the economic and noneconomic turns out to be a fictitious separation which may be useful for some scientific purposes but which is likely to serve some non-scientific objectives if the fictitious character is forgotten and becomes the basis for the normative conclusion that only private wants are "truly" economic, that social needs and requirements are meta-economic, and that the latter are beyond the scope of science.

Moreover, the substantive definition of economic action questions the validity of the tacit identification of an "infinite plurality of possible points of view" or "an infinite number of standards of value" (Max Weber) with a notion of a plurality of ends. In formal economics it may be legitimate to assume a plurality of competing

¹⁷ M. Weber, "The Theory of Social and Economic Organization," *op. cit.*, p. 185.

ends although even then it would seem to be problematical to identify the plurality of ends with the notion of "alternative uses."¹⁸ In practice, however, and for all purposes of substantive analysis the plurality of ends frequently disappears when intelligence is brought to bear upon the study of social needs and social costs. To be sure, the necessity of choice does not disappear but the number of alternative ends is considerably reduced. What is more, once we subject social needs to a deliberate analysis in the light of the concrete historical situation including the available means, we increase the chances of harmonizing conflicts and establishing priorities by the constructive use of intelligence. This constructive use of intelligence differs radically from the purely "manipulative" use of reason which guides the procedures of business accounting and is the prototype of formal rationality. In fact, the "formal" comparison of numerical expenses and receipts in accordance with the canons of accountancy has only one aim: the maximization of net pecuniary gain. In contrast, the constructive use of intelligence is concerned with the realization of genuine opportunities and the exploration of new possibilities.¹⁹ This requires the projection of repercussions of action or non-action under different circumstances. What will be the effects if we permit the social process to drift? What are the overall repercussions if social minima of public health were not enforced? What social losses are likely to arise? What are the consequences of maintaining or not maintaining certain growth correlations between different sectors of the economy? We have tried to answer some of these questions in our analysis of social costs.²⁰ Here we can indicate only briefly the possibility of defining minimum standards in various fields. Thus, in the field of air and water pollution it is possible to work out minimum standards of public health in the form of maximum permissible levels of concentration of pollutants. Social costs and social objectives can be identified in terms of existing deficiencies by comparing the actual state of pollution with the maximum permissible concentration of pollutants. Similarly, it is possible to work out safe social minima or maximum rates of depletion of renewable

¹⁸ R. W. Souter, "The Nature and Significance of Economic Science in Recent Discussions," *Quarterly Journal of Economics*, XLVII May 1933, p. 380.

¹⁹ John Dewey, *Human Nature and Conduct*, New York, The Modern Library, 1930, p. 234.

²⁰ K. William Kapp, *The Social Costs of Business Enterprise*, Bombay, Asia Publishing House, 1963.

resources (e. g., wildlife and fisheries) as well as water and soil by the definition of a *critical zone*²¹ beyond which any increase of depletion would give rise to an irreversible process of destruction of the resource. Minimum standards of requirements can be defined also in such fields as public health, medical care, education, housing, civilian defense, transportation and recreation. Even the problem of unemployment including technological unemployment can be approached in terms of a minimum rate of growth required to absorb an increasing labour supply and the number of workers permanently displaced by machinery and automation.

With the elaboration of social minima it becomes possible, at least in principle, to demonstrate objectively the presence of social costs and social benefits. By projecting the consequences of private decisions and public action (or non-action) in a given field the analysis of social costs and social benefits prepares the ground for the elaboration of social objectives, social priorities and social choices. We shall discuss below some of the problems which we have to face in determining social priorities. It is true, the determination of social minima may not eliminate altogether the subjective ideological elements inherent in the attempt to quantify social costs and social benefits. However, such standards objectify these extra-market phenomena. As a result it is easier to reach compromises or even a consensus of opinion. For example, we no longer question the validity of our minimum standards of public health and no serious person will deny their objectivity.

QUANTIFICATION AND EVALUATION

The question of the quantification of social costs and social benefits is sometimes raised in the implicit belief that if a concept resists quantification and measurement in monetary terms it is necessarily vague, ambiguous and outside the scope of economic science. To demonstrate that such quantification is difficult or impossible is then considered to be equivalent to having said practically the last word on the subject-matter: viz., to have ruled it out of existence as far as scientific inquiry is concerned. In economics this attitude is reinforced by an implicit identification of economic calculation with business calculation and of quantification with measurement in monetary terms.

²¹ S. V. Ciriacy-Wantrup, *Resource Conservation—Economics and Policies*, Berkeley, University of California Press, 1952, pp. 39, 256-9.

No one will deny that quantification and measurement make for precision. Conclusions formulated in terms of quantitative concepts can be tested more easily than qualitative statements. Economics has adapted itself to the ideal of measurement and quantification. Everything connected with the conduct of business transactions, such as the production of goods and services, consumption and even good will, tends to be expressed in numerical terms and has been subjected to quantification in terms of money and prices. Indeed, money provides a common standard in terms of which all the typical operations of measurement can be carried out and repeated: addition, subtraction, multiplication. The application of statistics has lent further support to the belief that economics has been more successful than other social disciplines in the use of the quantitative method. Furthermore, many of our concepts seem to have assumed a quantitative connotation which supports the impression that the problem of quantification and measurement has found a solution in economics.

However, this widely accepted view tends to exaggerate the extent and actual success of quantification and measurement in economic analysis. Our concepts may be quantitative in form but the substantive measurability of the quantities under discussion is in no way established. We may speak of marginal productivity and opportunity costs but we tend to forget that these seemingly quantitative and precise terms refer to fictitious concepts. Indeed, how is one to calculate marginal costs under conditions of joint costs and multiple product production when overhead costs are large and fixed capital highly specialized and non-saleable? And how can elasticity and marginal returns in concrete market conditions with varying degrees of oligopoly and countervailing power be quantified and measured? It is one thing to use a quantitative term with reference to a theoretical category which has no counterpart in reality; it is altogether different to quantify and measure an actual social phenomenon. Any substantive quantification and measurement in a concrete situation encounters the greatest practical difficulties. Thus, what are believed to be clear-cut quantitative definitions and tools of analysis turn out, upon closer examination, to be pseudo-quantitative in content. Hence, actual quantification and measurement are not quite as successful in economic analysis as is commonly believed.

Before turning to the basic issues raised by attempts to quantify

social costs it is important to stress that there are several ways to express at least some of the social costs of business enterprise in quantitative and even monetary terms. Thus, the loss of wages and output due to occupational diseases and industrial accidents and the costs of medical and hospital care due to partial and permanent disablement can be calculated and compared with actual compensation payments available under Workmen's Compensation or Social Security Acts. Evidence of soil erosion and soil depletion can be measured in terms of reduced soil fertility and the commercial value of crops not produced. The commercial losses caused by soil erosion and floods can be ascertained with a reasonable degree of precision. We can even calculate the capital value of resources lost once we agree on the rate at which to discount a stream of income derived in the past which would have been available in the future had the competitive exploitation of given resources not led to their premature depletion. It is possible to indicate the extent of (technically) unnecessary wells in the competitive exploitation of an oil field and similar duplication of capital in mining and transportation; we can estimate the resulting higher costs of recovery and loss of unrecoverable underground resources; we can ascertain the social costs involved in the high bankruptcy rate of small retail trade and we can calculate the costs of sales promotion as a percentage of national income.²² An attempt has even been made to calculate the social costs of migration due to technological change.²³

Another indirect approach to measure social costs, at least partially, would be to estimate the outlays required in order to remedy the damages caused by various private productive activities. For example, it is quite possible to arrive at quantitative estimates of the extra costs of cleaning buildings exposed to polluted air. Another method of quantifying social costs would be to calculate the costs of preventing their occurrence. For example the costs involved in the installation of proper filters or waste treatment equipment might be used to measure at least some of the social costs of air and water

²² This is not to say that much reliable quantitative information is available on these elements of social costs or that any systematic effort has ever been made to collect statistical data concerning them. There is no time series indicating the extent and evolution of social costs.

²³ J. G. Maddox, "The Private and Social Costs of the Movement of People out of Agriculture" *American Economic Review*, 1960, Vol. L, May 1960, p. 392-402.

pollution. This is a highly significant measure in so far as it would indicate the extent of the additional outlays which business enterprise would have to incur in order to eliminate social costs.

Just as social costs can be quantified in terms of the additional private costs involved in their prevention, so the social benefits of "public institutions and public works" can be given a quantitative expression (and even monetary expression) in terms of the public outlays required for their production. Such a quantification presupposes an estimation of the possible range of social and individual consequences if no steps were taken to secure these benefits. For instance, what individual and social losses are likely to arise as a result of inadequate facilities for education, transportation, research, public health or, for that matter, of the failure to insist on the installation of adequate water and smoke pollution abatement equipment. If it can be shown, for example, that an investment of \$100,000 required for the installation of smoke filtration and pollution abatement equipment would have the effect of eliminating social losses to the extent of \$200,000 we will have quantified social costs as well as social benefits.

The foregoing discussion points to genuine possibilities of quantifying social costs and social benefits if a serious intellectual effort were made to this end. However, it must be admitted that some real difficulties stand in the way of the quantification and measurement of social costs and benefits in monetary terms. First, there is the problem of joint causation. Air and water pollution are caused not only by private industries. Private consumers and public utilities are important contributing factors. Unemployment due to technological processes cannot be easily separated quantitatively from the unemployment caused by other factors. In the last analysis the general interdependence of all elements of the economy represents a serious obstacle to the precise measurement of the social costs of business enterprise.

A second and even more serious difficulty becomes evident if we consider the social costs resulting from the competitive exploitation and depletion of renewable and non-renewable resources. For clearly the magnitude of these social losses depends upon the value which these resources will have in the future. The discounted future value of these resources may be said to provide some measure of the present magnitude of the losses represented by their depletion. However, neither the discount rate nor their future value nor indeed

the number of generations to be considered are objectively given. The future value cannot be ascertained since it depends largely upon the importance which the present generation attributes to the interests and values of its descendants. However, the fact that the social costs of depletion cannot be determined with a desirable degree of precision must not be taken to prove that no social costs arise from the depletion of resources. It would be hazardous to assume that the future will take care of itself and that technical progress and research will automatically provide us with alternative resources of energy as we deplete our present ones. On the other hand, it is problematical to subordinate the interest of the present generation to those of future generations, particularly if we consider that the future may depend upon a new and different technology and resource pattern. Somewhere between complete disregard and complete subordination of the present to the future lies the answer to a rational resource policy.

Finally we have to consider the heterogeneity of social benefits such as education, public health and defense which are essentially incommensurable except in as far as they require scarce resources for their gratification. Interesting as it might be to supplement our national output and income accounting system of national book-keeping in terms of social benefits and social costs, the establishment of such a system of accounting would raise certainly more questions than can be answered here. What is needed is the promotion of empirical research designed to establish more precise measurements of the various categories of social losses and social benefits in monetary as well as in terms of general social estimates of their importance with a view to formulating the protective legislation that may be called for.

However, in the light of our distinction between formal and substantive rationality it would be unwarranted to confine the quantification of social costs and social benefits only to measurements in monetary terms or market values. As a matter of fact as long as we look upon business accounting as the model of social evaluation and use the latter as a general yardstick of all quantification and measurement we effectively block any intellectual and practical progress in this field. As we have pointed out, business calculations deal with quantities such as receipts and expenses and net gains in monetary terms. Formal economic analysis which views all transactions in this light merely follows the pattern of

business calculations. There is nothing wrong with this procedure as long as it is clearly understood that business decisions aim at a fixed objective which requires no further deliberation. Maximization of net profits (a numerical quantity) represents a single objective which neither admits nor requires any further reflection as to the kind and quality of purpose involved. However, as we have shown, such profit and loss calculations differ radically from the constructive use of intelligence and deliberation²⁴ about actual ends or actual damages and harmful effects. In the case of social benefits and social costs we are confronted with qualitatively different and heterogeneous benefits (or ends) and diseconomies which, even if they could be expressed fully in terms of market prices would still call for deliberation before it would be possible to arrive at a valuation. Even if possible, a simple business calculation would not be enough. The question is not how "profitable" it would be to prevent the pollution of the natural environment but what importance we attach to clean air and clean water. In evaluating any of these objectives it is a prerequisite to know the consequences of polluted air and water on public health and other values. While it is doubtless helpful to inquire into the costs of pollution abatement, no refinement of our tools can finally help us to quantify the "value" of heterogeneous qualities in monetary terms.

Thus we reach once more the limits of our traditional approach to the appraisal of economic magnitudes in terms of market prices. Indeed, the problem of quantification of social costs and social benefits cannot find a completely satisfactory solution on the basis of exchange values. As extra-market phenomena their magnitude cannot be adequately expressed in numerical terms which serve the purely formal and much more simple business calculation. Nor is this surprising. For there is no reason to assume that it is tenable to transfer criteria of formal rationality to the sphere of social costs and social benefits, which can be properly evaluated only in terms of criteria of substantive rationality and dynamic analysis. The question of the adequacy and transferability of concepts raises issues which lie outside the domain of the present essay. And yet they cannot be entirely avoided. Suffice it to indicate here with dogmatic brevity what we regard as the essential implications of our general position.

²⁴ The distinction follows closely Dewey's distinction between deliberation and calculation. See "*Human Nature and Conduct*", *op. cit.*, pp. 199-222.

We have made it clear that any concern with social costs and social benefits calls for a substantive approach to economic analysis. The evaluation of social costs and social benefits presupposes an emancipation from calculation in terms of formal market prices and a consideration of actual human wants and the ways and means by which resources can be mobilized for the enhancement of public welfare. This presupposes a deliberate concern for "the ultimate aims of man" as Alfred Marshall²⁵ put it. Substantive economics cannot refrain from taking account of individual wants and social requirements. That is to say we cannot avoid making distinctions between "essential" and "non-essential" needs.²⁶ Such a distinction can be based upon objectified social minima which could serve as a starting point for the identification of major social deficiencies. We must identify those sectors of the economy most likely to lag behind in economic and social development. This would enable us to determine social priorities in the light of available means and to decide upon the increase of resources in the light of established needs. To repeat, the criteria of social evaluation are not supported by the formal rationality principle (e.g. maximization of expected net monetary revenues) but are based upon the principle to maintain adequate levels of satisfaction of essential human wants at the lowest possible costs within the limits of available resources.²⁷

This is not a problem of defining a formal general optimum but a pragmatic task of improving the actual state of individual and social welfare. Indeed, what matters most in this context is the determination of the general direction in which to move and less the attainment and calculation of equimarginal utilities from the last additional

²⁵ Alfred Marshall, *Principles of Economics*, London, MacMillan and Co., 1938, 8th ed., p. 17.

²⁶ See, for instance, Veblen's distinction between "productive consumption" and "conspicuous waste" and "superfluities", and Vershofen's equally dualistic classification of wants into those which serve the maintenance of human life and those which serve the desire for prestige and status (Geltung) in society. See T. Veblen, *The Engineers and the Price System*, New York, B. W. Huebsch, 1921, pp. 108-110, and Vershofen, *Wirtschaft als Schicksal und Aufgabe*, Leipzig, Kochler und Amelang, 1930, p. 265.

²⁷ We thus support Gottl's insistence that the (substantive) notion of economy must include *ipso facto* the exploration and determination of actual needs and is concerned with the equalization and adjustment of needs to the "situation" and the "situation" to the needs. F. von Gottl, *Wirtschaft und Technik*, Grundriss der Sozialökonomik, vol. II, Tübingen, G. C. B. Mohr, 1924, p. 11.

dollar spent in all lines of endeavour. In practice the determination of social priorities and hence the quantification problem is considerably simpler than would appear in the light of the refinements of traditional formal value and price theory. While there are always a number of ends to consider (except perhaps in times of emergency) they are not as numerous as is sometimes believed. Indeed, if there were a multitude of ends, and if we permitted them to become unlimited in number and scope we could not act at all. We must select and deliberate about our ends and in this deliberation we must be concerned less with the calculation of indeterminate and indeterminable future results, which escape our foresight and are always contingent on new developments, than with present deficiencies and short-term projections in the light of available means. The concrete situation, if properly surveyed and analyzed in the light of available means, limits the possible number of goals and narrows our choice.²⁸

In fact, objective and scientifically arrived at minimum standards tend to assume, for instance in the field of public health, the character of a norm of almost overruling importance in view of the fact that any violation of such standards endangers human health and survival. If this is granted the maintenance of social minima once agreed upon becomes literally a technical question which, unlike an economic question, leaves little or no doubt as to the choice of the most appropriate means in accordance with the principle of achieving the result with the least expenditure of resources.²⁹ That is to say the maintenance of a safe social minimum, once defined and socially agreed upon, would call only for the traditional cost-consciousness and awareness of technical efficiency of the engineer. Needless to add that we are not suggesting that the establishment of social minima in some fields transforms all economic problems into technical questions. What we do suggest as undeniable is the fact that as we extend the applicability of social minima we "rationalize" and "objectify" the determination of social costs and social benefits

²⁸ While it would be "wilful folly", as Dewey put it (*Human Nature and Conduct*, *op. cit.*, p. 229) to fasten upon some single all-important end without regard to the consequences which such a neglect of other ends carries with it, it is nevertheless true that social goals must be set and deliberately selected and, as such, inevitably imply a subordination and perhaps neglect of other ends. This need not be a violation of the principle of substantive rationality provided we are proceeding in accordance with a social scale of essential and less essential needs.

²⁹ M. Weber, *op. cit.*, 161 and F. von Gottl, *op. cit.*

and remove their evaluation increasingly from the realm of subjective or ideological self-deceptions and distortions.

This brings us finally to the problem of the *social* evaluation of social benefits and social costs which has remained the least explored problem of social theory despite the fact that the issues have been raised from time and time. What has kept the discussion in a state of suspense is the subjectivist—utilitarian bias of our value theory and the Benthamite tendency to consider society (or the nation) as a theoretical fiction. Let us emphasize therefore, from the very outset, that far from being in conflict with individual wants, social needs and social benefits are actually the consequences of private decisions. The exploration of these interrelationships between private and social needs is the legitimate objective of government and the prerequisite of a civilized and democratic society. "A government that wants to meet the hopes and wishes of the citizen must take upon itself the consequences of the citizens own planning."³⁰ The requirements of civilized life and the principle of substantive rationality demand that the tendency toward social imbalance of the price system be counteracted by the continuous objective determination of social needs and potential social benefits. Such determination must not be guided by market prices—not even competitive market prices because the market reflects only effective demand and, moreover, is directly responsible for the emergence of a social imbalance and social costs. That is to say market demand reflects fully the inequalities of income, the time preference of the individual and, particularly in affluent societies, the effects of sales promotion. The determination of social needs and social benefits must reflect the substantive i. e. recognizable needs and desires of the average low-income consumer. In short, social evaluation must be more democratic (substantively speaking) than the evaluation which emerges in the interaction of supply and effective demand. If this consideration is relevant for advanced countries it is even more so for the underdeveloped world which has long suffered from a neglect of social overhead investments and from even greater inequalities in incomes. In short, the theory of social value must be based upon a democratic theory of consumption.³¹

³⁰ Statement by Prime Minister Erlanger of Sweden in Washington, *The New York Times*, April 4, 1961.

³¹ "What kind of consumption should be planned? Should it take the consumption of the more highly developed countries as a model? Should it be guided

There is no reason why, at least in principle, decisions as to social priorities could not be arrived at by a majority vote. The removal of India's deficiencies in sanitation, drinking water, or electricity just as the elimination of air pollution in the United States can be made the subject of a referendum.

We do not deny that the social evaluation of the relative importance of social benefits and social costs will always carry elements of a political decision as to social purposes and goals. In this connection it cannot be emphasized too strongly that the determination of social benefits and social costs does not take place in a vacuum but will always be at least in part derived from the concrete conditions and necessities of the socio-economic and political situation. Admittedly this relationship does not give rise to an unequivocal and self-evident determination of social goals and social values; but it limits the influence of arbitrary ideological factors and facilitates the formulation of aims and priorities which are accessible to scientific interpretation and the pragmatic test.³²

by whatever market demand exists. . . ? Or should production be tailored above all to serving as cheaply as possible the recognizable needs and desires of the average low-income consumers? If these questions are not faced deliberately they may be answered without thought. In particular there is danger that the consumption patterns of the more developed countries will be followed as a matter of course. The theory of consumption must, I think, be more democratic than this. . . Cheap bicycles are more important than cheap automobiles." J. K. Galbraith address at Bombay University, July 31, 1961. Quoted from official text, United States Information Service, New Delhi, p. 10.

³² Max Weber did not deny that such aims and even political aims could be derived from a disciplined interpretation of the objective conditions of the historical situation. Certainly his great courage to stand alone and to say what was often unpleasant for many and his insistent advocacy of clearly political aims and causes (cf. his concept of the lasting interest of the nation, his critical views on bureaucracy and socialism, his belief in the need for the entrepreneurial type despite his conviction of the nefarious political influence of the "gentlemen from heavy industry") can only reflect a basic conviction that it was possible to derive ends from a dispassionate analytical observation and comparison of events and social conditions ("Die Dinge aus sich selbst zu verstehen") and brings him almost close to John Dewey's position that ends are of the nature of hypotheses which can be established and worked out in the light of the concrete conditions available for their realization. See Dewey, *op. cit.*, p. 254 and *Logic The Theory of Inquiry*, New York, Holt, Rinehart and Winston, 1938, pp. 180, 497. On the whole problem see F. H. Blum, *op. cit.*, and "The Meaning of Max Weber's Postulate of Freedom from Value Judgments", *American Journal of Sociology*, Vol. L., No. 1 July 1944, pp. 44-52. See also G. Weippert, *Zur Problematik der Zielbestimmung in wirtschaftspolitischen Konzeptionen*,

There remains the important question of how the necessary consistency and interdependence of the various parts of the economic process can be established in harmony with social values and social development goals particularly under dynamic conditions. With this question we cannot avoid reopening a discussion which has long been considered as closed and has all but disappeared from economic analysis: the problem of calculation in real terms. All experiences made during the last decades in connection with economic planning seem to support the conclusion of those who have argued that planning and the translation of social goals into an internally consistent development process call for a calculation in real terms rather than in terms of prices.

This is relevant for our discussion. For social costs and social benefits are to a large extent extra-market phenomena. Hence the price system cannot be relied upon to provide the criteria for their social evaluation. Social costs as well as social benefits are heterogeneous in character, they cannot be evaluated in terms of a single denominator. As far as social benefits are concerned the criteria available are social minima based upon a substantive and democratic evaluation of social needs and requirements and their comparison in real (physical) terms with available resources. What makes it possible and necessary to reopen this problem afresh are recent advances in our techniques and our knowledge concerning the quantitative input-output relationships between different industries. These studies have opened up new possibilities to express in quantitative terms the real costs of different social goals. Input-output balances provide the basis for a rational approach to the important task of coordinating output targets and input requirements throughout the economy. They yield the necessary data for the calculation of interdependencies and growth correlations between different sectors of the economy. Finally, knowledge of the physical inter-industry relationships answers important questions related to planning the capacity of supplementary investments called for by any large-scale multipurpose project.

in H. J. Seraphim, (ed.) *Zur Grundlegung wirtschaftspolitischer Konzeptionen* Schriften des Vereins fuer Socialpolitik, Neue Folge, Band 18, Berlin, Duncker and Humblot 1960, pp. 185-8. See however, H. Giersch, *Das Problem der Objectivitaet des wirtschaftlichen Urteils und der Loesungsversuch der neueren Lehre vom wirtschaftlichen Wohlstand. Zeitschrift fuer die gesamte Staatswissenschaft* Ed. 107, 1951, pp. 247. ff

By informing us about the real costs in terms of resources or labour required for the achievement of particular goals or benefits input-output studies would contribute to the quantification (in real terms) of social benefits. The problem of social choice and the determination of social preferences thereby become easier than is usually assumed. There is no reason why such choices and priorities cannot find expression in schedules of (controlled) relative prices expressed in monetary terms for accounting purposes. However, even if this is done the criteria of substantive rationality and economic optimum will always have to be expressed in terms which permit the measurement of the attainment of higher levels of productivity or decreasing real costs. In practice this can only mean that conditions of economy-wide balances between total supply and social demand are maintained through the speedy removal of deficiencies, bottlenecks and excess capacities. Indeed what often counts most in practical affairs is the making of decisions with a minimum of delay. This time dimension of decision-making is of the greatest importance in judging the substantive rationality of economic planning. For due to the interdependence of the economic process delays in decision-making often have more far-reaching effects than bad decision made on time.³³ Admittedly we face here the question of how far measurements of dynamic technical efficiency can serve as an index of substantive socio-economic efficiency. To deal with this question would take us beyond the scope of the present essay.

As we have indicated above, calculations in real terms as indeed any substantive approach to economics has its own problems and sources of inefficiencies.³⁴ No one will deny that political factors

³³ "A bad decision made on time will not usually be as costly as a good decision made too late. The bad decision can often be reversed at low costs. The time lost waiting for the good decision can never be retrieved." J. K. Galbraith, "Public Administration and the Public Corporation", Address, Indian Institute of Public Administration, August 25, 1961. Official Text, United States Information Service, New Delhi, p. 6.

³⁴ Max Weber stressed the fact that the standards of substantive rationality may not command the necessary minimum of consensus in society; that the "administrators" may be swayed by their own personal sentiments which might differ from those of some social groups; that political pressures of important social groups might force them to adopt standards favourable to them, and, above all, that changes in technology and preferences would necessitate new calculations and a reallocation of the "input-mix". Nevertheless, while Max Weber felt that Otto Neurath's plea for calculations in kind was open to criticism, he considered

and ethical value judgments are bound to influence the decisions to minimize social costs and to realize social benefits through social investments and public works. The economy is never completely free of such political and ethical influences. It is also true that conflicts of interests and elements of coercion will intrude into the political process and hence influence the evaluation of social benefits (and social costs) and the determination of social priorities. However, the fact that for many decades *silicosis* was not recognized as a social cost or that the same social costs may be treated differently in different societies may indicate differences in the distribution of political power but does not refute the objective character of social costs. Similarly, the fact that many underdeveloped countries do not provide an adequate system of education or sanitation cannot affect the objective character of the social benefits obtainable from "investments" in the human factor. Nor can the realization that different people may place a different (subjective) value on the benefits of education and health deny the objective character of the advantages which a literate and healthy population enjoys over an illiterate and disease-ridden one.

SOCIAL COSTS AND SOCIAL BENEFITS: THEIR IMPLICATIONS FOR PUBLIC POLICY AND ECONOMIC DEVELOPMENT

The foregoing analysis has left no doubt that the principles of formal rationality cannot define an optimum of social efficiency. On the contrary, by systematically neglecting the extra-market phenomena of social costs and social benefits, formal rationality is basically in conflict with and opposed to substantive rationality. While the former may be useful as a scientific fiction for explaining the behaviour of the entrepreneurial unit engaged in business accounting—although even this usefulness has been questioned—it differs in content from substantive rationality and hence does not provide an adequate norm for the formulation of economic policies.

It is, therefore, pertinent to ask whether and how the presence of social costs and social benefits influences the formulation of practical his suggestions as "penetrating" and "stimulating" and did not deny that 'calculation in kind' could become a rational technique. In fact he expressly stated that as long as the maintenance of social minima objectively defined without discrimination of some sections of the population is the standard of calculation the substantive approach may actually satisfy the criteria of the formal optimum. Max Weber, *The Theory of Social and Economic Organization*, *op. cit.*, pp. 202-212.

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policies in industrially advanced countries and what may be their significance for the underdeveloped world. We have already indicated that the recognition of social costs and social benefits is not simply a matter of empirical research but depends to some extent upon the distribution of power in society (both "original" and "countervailing" power in Galbraith's sense). The greater the spread of countervailing power the greater the likelihood that taxes and protective legislation will be used to translate social costs into private costs and that provisions will be made for public investments for the creation of social benefits. Whether and which social costs and social benefits will be taken into account depends therefore upon the political structure of society.

There can be no doubt that the existence of social costs and social benefits calls for planning and control of the competitive process. This planning which has the purpose of protecting society against socially destructive processes is designed to translate the "variable" (or shifted) social costs into fixed "social overhead charges"³⁵ and by means of subsidies, public investments or public enterprises, to encourage or enforce the production of social benefits. Such interference does not differ basically from the system of laws which regulates traffic or declares certain activities as unlawful if they are directed against personal or property rights of the individual. Whether these interferences with the competitive system have actually gone far enough or have gone beyond what is necessary is a question which cannot be answered in general terms but requires detailed case studies.

In any event much of our contemporary labour and social legislation has the purpose of internalizing the social costs of production into entrepreneurial cost accounts. It has been suggested that not only the history of economic and social legislation but of economic development in general could be written as the history of the success or failure to internalize the social costs of production and of the struggle to limit and resolve the conflict between individual and social

³⁵ Borrowing and extending the meaning of J. M. Clark's concept of overhead costs Blum speaks of social overhead or constant costs with reference to all those elements of costs and benefits for which society has already chosen to assume responsibility and speaks of social variable costs with reference to those elements of costs and potential social benefits which society permits to be shifted or to go unrealized. See F. H. Blum, "Social and Economic Implications of the Fair Labor Standards Act", *Industrial Relations Research Association, Proceedings*, Cleveland, Aug. 1956, pp. 167-83.

interests.³⁶ That is to say economic history and economic policies have been shaped by precisely those aspects of economic life which economic theory in its preoccupation with formal rationality has either neglected or ignored altogether.

More significant, particularly in the context of the economics of growth, is the question of the relevance of social costs and social returns for the acceleration of the development process. It can hardly be denied that the process of economic growth is bound up with substantial social costs such as the large-scale disruption of traditional processes of production and of old ways of life. Indeed, many of the classical cases of social costs such as the expulsion of farm workers from the land, the impairment of the health of women, children and of adult labourers, the depletion and erosion of the soil, the pollution of air and water, the obsolescence of old skills, the easy shift of the social overhead costs of labour in periods of unemployment and the development of city slums arose first in the course of rapid economic advances in Western Europe during the Industrial Revolution. Indeed, it may be argued that the institutional arrangements which concealed the social costs of these early innovations and the absence of legislation which made it possible to shift these costs to third persons or to society-at-large were largely responsible for the dynamic character of economic change during the initial stages of the Industrial Revolution. Hence, any attempt by social legislation to force entrepreneurs to bear at least part of these social costs may have the effect of slowing down the process of economic development. In the light of this doctrine³⁷ it would appear that rapid economic development presupposes the systematic neglect of social costs, and that current attempts in many underdeveloped countries to force their productive units to internalize some of the social costs of production will have the effect of slowing down the rate of economic growth. *Prima facie* this argument seems to be irrefutable. However, closer analysis particularly of the economic effects of social costs and social benefits on the process of economic development reveals its limitations.

³⁶ K. P. Hensel, Ueber die wirtschaftliche und wirtschaftspolitische Willensbildung und Willensverwirklichung in verschiedenen Ordnungen, in H. J. Seraaphim, (ed.). *Probleme der Willensbildung und der wirtschaftspolitischen Führung*, Schriften des Vereins für Sozialpolitik, Neue Folge, Band 19, Berlin, Duncker und Humblot, 1959, p. 21.

³⁷ For a recent elaboration of this thesis see A. O. Hirshman, *The Strategy of Economic Development*, New Haven, Yale University Press, 1958, pp. 58-59.

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In the first place, while it is true, that the systematic neglect of social costs may make it possible to invest in projects which could not be undertaken if the social costs had to be internalized it is equally true that the social costs once shifted have important adverse and cumulative repercussions on economic and social welfare. Thus, if in their effort to minimize the cost of current production, farmers in the underdeveloped world increase the rate of soil depletion and erosion at a more rapid rate; if expansion of industrial production in the growing cities of Asia is associated with the uncontrolled growth of slums and the widespread pollution of air and water;³⁸ if the introduction of new industrial techniques is permitted to proceed without regard to the non-amortized value of older equipment in existing firms and the obsolescence of older skills; in short, if nothing is done to minimize these social costs of development, private cost are bound to rise before long if, indeed, the whole development process may not be brought to a halt by the exhaustion of the soil, the impairment of the human factor and the inevitable political polarization which such a policy of *laissez-faire* is bound to entail. In addition, and more specifically, it is an illusion to believe that social losses affect only future generations. Destructive farming practices and methods utilized in minimizing current costs of production in agriculture which deplete and erode the soil may raise the costs of next year's crops not only on those farms whose owners were responsible for the soil destruction, but on all farms in the region. Similarly, air and water pollution affect not only human health but raise the costs of production generally. The same point can be made in connection with all those practices which lead to the exhaustion of other renewable and non-renewable resources. In short, social costs are really not 'unpaid', if they are not avoided they have to be paid by somebody, and their cumulative effect may actually slow down the development process.

Finally, the thesis that protective legislation and the resulting internalization of social costs into private costs tends to retard the rate of economic growth also ignores the fact that the prevention of social costs may be considerably less costly for society than the damages caused by destructive productive practices or, for that

³⁸ The average monthly fall of soot in Calcutta is currently estimated at 25 tons per square mile, *The Economic Weekly* (Bombay), 1-2-60. Needless to add that practically all domestic and industrial wastes in the underdeveloped countries are discharged without prior treatment into waterways.

matter, the attempt to repair the losses and damages once they have occurred. In other words the (marginal) real costs involved in the prevention of air pollution are likely to be lower than the (marginal) real costs of repairs and additional medical care called for by the effects of air pollution.

The case for a more comprehensive system of social accounting and a determination of social priorities in underdeveloped countries is even stronger if we consider the case of social benefits and external economies. One of the characteristics of underdeveloped countries is their traditional neglect of social overhead capital. Investments in the human factor and in a variety of public institutions have been wholly inadequate or non-existent and have left a heritage of serious deficiencies in education, in road and transportation systems, and in public health, while available economic surpluses were used either for artistic or religious purposes, monumental constructions or for "leisure goods" in Veblen's sense of the word. The innovating entrepreneur in underdeveloped countries cannot hope to appropriate and internalize many of the external economies which are created by his investment decisions. In short, while profit and capital accounting may be formally correct it is substantively speaking incorrect because it cannot consider the very real social and external benefits of investment. The practical implications of this divergence of private and social benefits for the development process may be summarized briefly as follows: Just as the social costs of production are not registered by the market test, the price mechanism fails to take account of social benefits and external economies. The neglect of these extra-market phenomena disqualifies the market calculus as an effective guide for investment decisions. An underdeveloped economy guided exclusively by the competitive calculus would destroy the fabric of society by the cumulative effects of a variety of social costs and the inevitable neglect of essential social overhead investments in such areas as education, sanitation, defense, administration, medical care, water supply and a host of similar public services. Actually no democratic society can and will tolerate this subordination of the social system to the dictates of formal rationality. The universal reaction of society to the neglect of social costs and social benefits has taken a variety of forms all of which have had the effect of compelling the private producers to internalize at least a portion of the social costs and to assume partial responsibility in the form of higher taxes for public investments.

X

ECONOMIC PLANNING AND FREEDOM*

THE TERM planning lends itself to so many interpretations that one is almost inclined to suggest its abandonment for purposes of serious economic analysis if one did not realize how hopeless it is to suggest the abandonment of any term that has acquired a status in our language similar to that of economic planning. Largely on account of this vagueness, the discussion of planning has provided the ground for a battle of words in the course of which some of its supporters have suggested economic planning as the solution of all the pressing problems of our time, whereas its opponents accused it flatly as being destructive of human freedom, incapable of any rational allocation of scarce resources and likely to bring about a general bureaucratization, standardization and monotony of life. Of course, fundamentally, this cleavage of opinion concerning the effects of economic planning, reflects above all basic differences of world outlook as to the relation of the individual to the state in modern society. But it also suggests that the supporters and opponents may not talk about the same things when they speak of "economic planning."

I

Rather than reject the term planning we wish to use it as the point of departure for the subsequent discussion. There is, indeed, an element of truth in the often made assertion that "planning" is nothing new, that, in fact, we are and always have been engaged in economic planning and that the system of free enterprise is an economy in which "planning" takes place at various levels. In fact, in its most general sense the term planning may well be said to include the whole field of human action, whether individual or collective, which is directed towards a purpose and consciously attempts to attain this purpose in the most economical manner. Thus planning is a prerequisite and an essential element of rational conduct, it stands for anticipating the future course of events,

* Reprinted with permission from *Weltwirtschaftliches Archiv*, Band 64, Heft 1, 1950, pp. 29-54. (Revised).

for conceiving of alternative courses of action and making up one's mind as to which course is likely to be the most fruitful or advantageous one. In this sense, planning invariably implies a valuation and a choice. In the nature of things, then, planning, no matter by whom and at what level it is undertaken, implies the expression of a preference for one alternative as against a number of others, and in line with such preference, calls for an allocation of resources to attain the various ends according to their relative importance.

II

Planning in this sense of "decision-making" is undertaken by individual consumers, private firms and various public authorities. In fact, the latter are increasingly engaged in economic planning in the sense of anticipating future developments, making decisions as to competing objectives and then allocating, presumably in the most effective manner, available means to the chosen purpose. In other words, the formulation of public policy by public authorities represents an act of planning in the sense in which the term is here understood.

First, let us deal with the planning of private individuals. Such planning includes: (a) the individual's choice of occupation and place of residence; (b) the individual's choice of how to use his income, how to allocate his funds among different consumers' goods including the choice between present and future goods (savings); and (c) in private enterprise economies, the choice by owners of capital to invest in different lines of production. It is this kind of planning by consumers and private firms which has attracted the attention of theoretical economists. In fact, it is not exaggerated to say that the major part of modern equilibrium theory consists in "plan analysis",¹ devoted to the theoretical explanation of economic plans made by individual consumers and private producers under assumptions chosen to demonstrate certain conclusions concerning the rationality of the market mechanism. This analysis has proceeded at a high level of abstraction the relevance of which for the explanation of actual decisions is being increasingly questioned. Planning by public authorities is based

¹ Erik Lundberg, *Studies in the Theory of Economic Expansion*, London, 1937, p. 8.

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upon anticipation of the probable future course of development and requires the selection of one course of action as the most advantageous one. But unlike the planning by private individuals and business firms which is said to be directed toward maximum individual utility and private profit maximization, government planning is guided primarily by considerations of social welfare. That is to say the standards of evaluation and choice are largely social and collective in character in that they refer to social values in the sense of value-to-the community. It would be a mistake to believe that these social values are inevitably more remote and necessarily less tangible than individual values. While it is true that social evaluation and government planning often reflect the importance attributed by the community to general national objectives, it is important to note that many government planning decisions also aim at the avoidance of various social costs and the realization of social benefits. In any event, government planning implies decisions which in most cases are designed to correct and to supersede the results of market adjustments whether under competitive or oligopolistic conditions.

If economic planning plays such an important role in contemporary society the question may well be asked: what is the difference between planning under "capitalism" and planning under "socialism"? The most noticeable difference between planning under capitalism and socialist planning seems to lie in the degree to which the functions of decision-making in the field of production and investment are actually exercised by public authorities instead of by private producers. Whether or not based upon the nationalization of basic industries, socialist planning implies a transfer of decision-making from individual managers to public bodies. As a result, the role of government planning is not only greater under socialism but it is also more comprehensive. Neither economic policies mitigating depressions nor the far-reaching measures of government planning in the American war economy and even less so fiscal planning for the maintenance of full employment can compare in scope with the extent of planning by public authorities in a socialist economy in which the means of production and hence the producing units are centrally administered.

While it would be wrong to believe that the nationalization of the means of production in a socialist society makes government planning a simple task, the fact that the means of production in a

capitalist economy are privately owned puts the greatest difficulties in the way of government planning. These difficulties arise primarily from the fact that owners of capital and business firms are "free" in their decisions concerning output, price and investment. In fact the perennial dilemma of government planning under capitalism seems to be that private investment decisions may defeat the planning of public authorities. It is therefore quite consistent to suggest that planning should be confined to those areas where competition has lost its regulatory force, and to warn against any attempt of economic planners to make out of private business a kind of civil service acting under authority of the government and charged with carrying out general economic policies.²

Nor can the difference between government planning under capitalism and socialism be found in the nature of the objectives of the planning decision. The specific content of any plan depends at any given time upon the objectives pursued, which in turn are an outcome of a choice arrived at in the light of a general appraisal of economic conditions and requirements and the formulation of a preference for one or the other alternative course of action. In short, whether (national) economic planning is directed towards economic development and industrialization, the preparation of adequate means of defense, the maintenance of full employment or the provision of a maximum of present consumers' goods will depend upon historical circumstances which have nothing to do with the nature of planning. It is misleading to identify economic planning with any of these possible objectives.

The preceding discussion points to a third criterion of distinction: the method used in bringing about the necessary coordination of individual plans into a consistent pattern. This is the central problem of economic planning. Economists have studied primarily the methods of market competition as a way of securing the coordination of the plans of private individuals and business firms into a more or less integrated pattern. Alternative methods of bringing about such coordination have as yet been scarcely explored. The most promising approach open to national economic planning is that provided by input-output analysis. It is only during the last ten years that considerable progress has been made in the explora-

² Sir Oliver Franks, *Central Planning and Control in War and Peace*, 3 Lectures delivered at the London School of Economics and Political Science, London, 1947, pp. 40 sqq.

tion of the quantitative analysis of the input-output relations for an entire economy. Even though the methods and usefulness of inter-industry economics may still be controversial it is becoming increasingly clear that this branch of concrete economic analysis is likely to be one of the prerequisites for the effective coordination of different sectors of the economy under systems of economic planning.

Government planning may be distinguished according to whether it is direct or indirect, quantitative or general. A concrete example will help to elucidate this familiar distinction better than any abstract summary. Let us compare the different effect of such methods of government planning as the introduction of import tariffs and the establishment of an import quota system. The levying of a general import tariff has the effect of raising the price of imports. As a result the volume of imports will drop. But the actual determination of the quantities to be imported is left to the forces of market competition which leaves the decision of how much is to be imported to private business firms. Each private importer is free to make the necessary adjustments. No further steps by the government are required. With the establishment of an import-quota system the situation is radically altered. It is no longer the private importer but a public agency which determines the quantities to be imported. By fixing the volume of imports the operation of the market mechanism is suspended not only as far as the determination of the quantities to be imported is concerned but also with respect to the volume of imports of different firms. Thus the setting up of a quota system must necessarily be supplemented by an appropriate method of allocating the fixed amounts of imported goods among the different commercial units. Various methods of dealing with this problem are available. In some cases the quota is distributed to various wholesale importers according to the relative magnitude of their imports in previous years. In other cases, each firm receives simply a fixed percentage of the total.³ In neither case, however, is the quota allocated according to the forces of the market; in fact, market indicators are ignored. The coordination between the plans of the importing firms (and hence those of private individuals who purchase imported commodities) and the government

³ Gottfried Haberler, "Libérale und planwirtschaftliche Handelspolitik", Unter Mitw. von Stephan Verosta, *Zwischenstaatliche Wirtschaft*, H. 8, Berlin, 1934, p. 88.

plan (the import quota) is not brought about by the "impersonal" factors of market competition and price but by a decision of public authorities.

Needless to add that the major portion of government planning in wartime is of this direct quantitative nature. Priority systems, allocation of raw materials to industries according to some quota system, price fixing, consumer rationing, export and import prohibitions, nationalization of key industries, compulsory labour services, — all these and many other measures too numerous to list, tend to suspend important functions of the market mechanism. Even in peacetime the range of direct quantitative government planning is far from small—witness such typical depression measures as public works programmes, restriction of acreage in agriculture, parity price systems, minimum wages—to name only the most important ones. In contrast, a detailed analysis of the anti-depression policies associated with the "new economics" of Keynes and his successors would probably reveal that they are predominantly of an indirect, non-quantitative kind. Most schemes designed to maintain full employment by means of compensatory fiscal policies are general and nonquantitative in character as are most of the orthodox monetary and fiscal policies (such as changes in discount rates and reserve requirements, progressive taxation, etc.). That these and similar anti-depression measures do not suspend the market mechanism but on the contrary are designed to operate through it, testifies to their essentially conservative character. Even the most far-reaching proposals of "functional finance" seem to be satisfied with an increase or decrease of effective demand without introducing any major changes into the market system.

In a socialist economy it is possible to distinguish theoretically between three fundamentally different methods of coordination (with a number of intermediate and mixed solutions in real life). First it is conceivable that no room is left for planning by individuals. Instead, one single plan is drawn up by a central authority which determines the organization of production, the place of work of each labourer, his remuneration, and the kind of consumers' goods obtainable by every individual. In fact, income may be received either in kind or in money. In the latter case, the free choice of consumers' goods would have to be restricted by some form of rationing under which the purchase of goods and

services would require the surrender of both money and rationing coupons. This extreme case of planning may be described as an attempt to solve the economic problem through the elaboration of one single plan with no room left for the planning by individuals whether in their capacity as consumers or labourers (producers). While this kind of central planning through one single plan would avoid most of the difficulties which result from the fact that a multitude of individual plans may conflict with one another, it would most likely produce a maximum of friction between the individual and the state. In fact, it is safe to say that the more the government attempted to establish a single plan against and in opposition to the plans of the individuals, the more it would have to employ methods of coercion and the greater would be the loss of economic and civil liberties.

The second method of coordinating the plans of individuals and public authorities would leave to the individual the selection of his occupation, of his residence as well as the free choice of consumers' goods. Instead of coordinating all plans within one single plan, this kind of socialist planning would take into account the plans of individual consumers and producers (labourers). That is to say, incomes would be paid in money in such a fashion that the total money income paid out be equal to the total value of the consumers' goods and services produced. With respect to individual commodities, this kind of planning would imply not merely an intricate adjustment of prices but also provisions for the regular modification of production plans whenever the estimates by the planners of consumers' choices for goods and services turn out to be wrong.

The third kind of socialist planning differs only in so far as it permits private savings either in the form of saving deposits or investment in government securities at interest. The only theoretical complication which this provision introduces is that an estimate must be made of the manner in which consumers are likely to allocate their income for present as against future consumption. "The sum of this expected private saving, and the saving performed by the state itself should be equal to the planned increase of capital. This means that the total value of the consumption goods offered for sale to consumers should correspond to the non-saved part of their incomes."⁴ If consumers decide to save either more or less

⁴ Erik Lindahl, *Studies in the Theory of Money and Capital*, London, 1939 pp. 72 sq.

than had been anticipated by the planning authority, there will be either a deficit or an excess of demand for consumers' goods which will require a corresponding modification of the production plan.

From the foregoing analysis two major conclusions emerge: first the central problem of socialist planning, as indeed of all planning, lies in the coordination of different plans with one another. In the system of private enterprise, this coordination is never consciously attempted; it comes about—in so far as it comes about at all—as a result of the operation of the market mechanism. Under socialist planning the coordination entails some kind of estimate on the part of the central planning authority of the content of the individual plans. In the event of a deviation of the production plan from the plans of the individual consumers and labourers, a conscious modification of the former by the planning authority has to be undertaken. In addition, socialist planning necessitates an adjustment of prices at levels which balance supply and demand of individual commodities in the short run. To explore the theoretical implications of these tasks will be one of the many problems of a general theory of socialist planning.

Furthermore, the foregoing discussion has made it evident that socialist planning leaves no room for that kind of planning which is one of the most important sources of trouble in the private enterprise system: the determination of both the volume and the nature of investment by private investors. Both these decisions are transferred to, and must be exercised by the central planning authority. In fact, the planning of investments—both of the relative volume and the specific channels of investment—constitutes, together with the production plan of consumers' goods and its constant modification in accordance with the wishes of consumers, the central task of socialist planning. The investment decision is bound to assume the character of a political decision in view of the fact that it provides the most important source of political conflict and controversy in socialist societies. Nor is this surprising. Whether the central plan devotes 20 percent or 30 percent of the nation's resources to the production of durable capital and consumers' goods may mean the difference between a low and a tolerable standard of living for a country short of capital and operating at full capacity. Under normal conditions (that is in the absence of exceptional circumstances such as the danger or actual event of war when

general agreement concerning the importance of the supreme end of victory is easily achieved), there are bound to be differences of opinion and genuine conflicts of interest as far as the rate and direction of investment are concerned. Because the investment plan raises political issues, it calls for a political decision in planned societies. Thus we have reached the final point in our discussion: the impact of economic planning on the role of government and the freedom of the individual.

III

Critics of socialist planning assert that government planning can be achieved only at the price of destroying free institutions and personal freedom. They are opposed to social reform which would radically transform the economic foundation of society on the ground that it will crush the individual and indeed reverse the whole trend of Western Civilization in so far as it succeeded to free the individual from the bonds of external and arbitrary power. Some of these critics believe that it was the growth of the capitalist economy during the 18th and 19th century which liberated the individual from authoritarian control and that the maintenance of free institutions depends upon the preservation of the market economy.

The historical argument of a causal connection between capitalism and democracy and the liberation of the individual from authoritarian control is at best inconclusive. While it is doubtless correct that the rising middle class was primarily responsible for the growth of the market economy and, by opposing the system of mercantilist controls, contributed a major share to the economic and political liberation of the individual, it is equally true that the ultimate success of the struggle for economic and political liberty under capitalism and the maintenance of free institutions depended at any given time upon the superior productive efficiency and the resulting higher standard of living which the rise of science and the discovery of new continents offered to vast masses of people. In fact, it has been suggested that "the principal way in which the rise of capitalism contributed to the rise of democracy was in providing it with an economic base of greater productivity."⁵ Whenever this advance gave rise to particular hardships and malad-

⁵ Eugene Staley, "What Types of Economic Planning are Compatible with Free Institutions?" *Plan Age*, Washington, Vol. VI, 1940, p. 38.

justments, as for example during the industrial and agricultural revolutions, the market economy offered no guarantee for the preservation of freedom. On the contrary, while removing some insecurities and social injustices, it created new ones. If the historical analysis proves anything, it is that the growth of the market economy has been accompanied by the growth of freedom whenever it gave rise to higher standards of living.

This realization points to two conclusions: first, whether or not an economic system is compatible with democratic institutions and individual freedom depends not only upon the manner in which the coordination of individual plans is achieved but also upon whether or not the system operates in such a fashion as to provide a rising level of living for the great majority of people. Secondly, and more important perhaps, the market economy itself, despite or more correctly because of the absence of central planning, produces conditions which may put us on the road to serfdom. Democracy in continental Europe failed not because it planned economic activities but, as Oscar Lange has pointed out, because it did not plan enough.⁶ Not planning but the absence of democratic planning led to fascism and totalitarianism both of which have been equally well described by modern psychologists either as "the political quintessence of personal despair"⁷ or an "escape from freedom".⁸

IV

We will never gain the proper perspective for dealing with the problem of freedom under planning if we are not willing to face the effects which the operation of the market economy has on individual liberty and the human personality. Even though an adequate treatment of this problem transcends the scope of this essay it is at least possible to outline the general manner in which it may be approached. For instance, what are the effects on individual freedom in the substantive sense of freedom to act in times of widespread depression and prolonged unemployment?

⁶ Oscar Lange, "Economic Control after the War", *Political Science Quarterly*, New York, March 1945, p. 13.

⁷ Harry S. Sullivan, "Conceptions of Modern Psychiatry", *Psychiatry*, vol. III, 1940, p. 97.

⁸ Erich Fromm, *Escape from Freedom*, New York, 1941. See also K. Polanyi, *The Great Transformation*, New York, 1944.

Or what are the consequences for the average individual accustomed to the pursuit of monetary gain if the over-all performance of the economy is such that instead of rising standards of living the future seems to offer prospects only for declining material welfare? What happens to the human personality as a result of persistent economic insecurity?

What are the effects of monopoly and oligopoly on effective liberty? It is true many consumers never become fully aware of the extent to which they are victimized in the absence of strong price competition and this lack of awareness doubtless accounts for their proverbial inarticulateness in contemporary society. But, despite what we may wish to believe about consumers' sovereignty, the fact remains that he usually has only a choice between paying the price the monopolist considers the most profitable or not buying at all. Similarly, the concentration of production and the growth of big business raises serious questions concerning the effective liberty of the small and medium-sized producers.

If we understand by democracy not merely a form of government but a way of life which is characterized by human relationships based upon voluntary cooperation and participation of all in the formulation of purposes and values, it is indeed pertinent to inquire how far such conditions are actually realized in business and the field of industrial relations. Is there any guarantee that industrial relations are marked by voluntary cooperation and consent and not by subordination to authority? To raise this question does not mean that a complex industrial system can be expected to operate without a certain measure of discipline and authority. But even so, it is pertinent to ask whether authority and discipline in our industrial relations have not tended to restrict unduly individual freedom and to promote undemocratic attitudes?

Finally, there is the danger of conformity which threatens human freedom and undermines our individuality. Far from preventing this danger the market economy serves to accentuate it. Under the impact of competition and advertising the individual becomes a customer who chooses what is customary instead of following his own inclination. Indeed, "it does not occur to him to have any inclination, except for what is customary."⁹ With the extension of the influence of advertising over radio, television and the press

⁹ John Stuart Mill, *On Liberty and other Essays*, New York, 1926, p. 72.

a nation of independent farmers and businessmen may well be in danger of becoming a nation of clerks.¹⁰

Needless to say that the foregoing discussion of freedom and its possible restriction by the market system implies a broad concept of freedom and a conviction that the individual is menaced not only by political authorities against which political democracy has fought a fairly successful battle during the last hundred years but also by various forces which are the direct outgrowth of the market system.

Indeed this substantive meaning of freedom does not lose its relevance if we apply it to the economically less advanced countries of the East, particularly to India. On the contrary, it is in these over-populated and hierarchically organized cultures, that the concept of freedom meets its final test. For it is here where institutional arrangements, religious (supernatural) interpretations of the human situation, over-population and repeated invasions and foreign rule combine to produce and to perpetuate inequalities of opportunities which condemn the great majority of the population to a life of poverty and stagnation. In India's villages and cities the institutions of caste and untouchability on the one hand and the money-lender and landlord on the other are the primary factors which have limited effective freedom for centuries. In fact for many of the "Backward Classes" and a growing number of landless labourers freedom in any substantive sense—as an opportunity of social mobility and economic advance—can hardly be said to exist as yet despite land reforms and universal suffrage, the constitutional removal of disabilities and discrimination and the introduction of special treatment for the Untouchables. It is the underlying institutional arrangements together with the iron law of retribution (*Karma*) and the concept of duty and social obligations which limit the level of aspirations and prescribe the patterns of behaviour for the majority of the population.

v

In turning finally to the question of planning and freedom it can hardly be denied that the formulation of economic policies as the exercise of public power may be used and abused in such a manner as to restrict the area of individual liberty. Moreover, the increase of the scope of governmental operations just as that of

¹⁰ See Justice William Douglas quoted in *The Times of India*, July 3, 1962.

private corporations, doubtless carries with it the seeds of a bureaucratization of life which even though it may be the only method of solving the problems of an industrial civilization, may have serious consequences upon the democratic way of life. But these are general problems which any society of the future will have to face no matter what its particular form of organization may be. Insofar as national economic planning overcomes the limitations which economic insecurity, unemployment, social injustices inherent in the operation of the market mechanism, monopolist price policies, and oppression by vested interests place upon individual freedom in the market system, a planned economy will tend to increase the effective freedom of the individual. But it is held that any greater efficiency in the over-all performance of national economic planning as compared with the market system can be obtained only at the price of placing such extreme and new restrictions upon other spheres of human activities that the net effects can only be a complete subordination of the individual under the will of the state. It is in these terms that the opponents of social reform challenge national economic planning. For this reason it is necessary to deal with the question of the effects of national economic planning upon the freedom to own property, to save, to invest or to choose and change one's occupation, to move from one place to another or to strike for higher wages, to spend one's income in accordance with one's preferences. What remedy has the consumer-citizen in a planned economy in case the supply of particular goods is persistently inadequate, their quality inferior and their prices exorbitant? These are the questions that need to be answered if one wants to arrive at a reasoned conclusion regarding the freedom of the individual in a planned society.

Obviously, the freedom to own property in a planned economy based on collective ownership of the means of production will be confined to personal property and the means of small-scale production. Consumers' goods of all kinds, small shops and stores, small-scale manufacturing units, and as the Soviet example indicates, even farms, garden land and farm implements up to a certain point can be left in private ownership even under conditions of national economic planning. Factories, plants, equipment, urban land and buildings, raw materials will have to be owned or at least administered by public authorities. This abolition of private ownership of the essential means of production represents a much less radical departure from the conditions prevailing today than is usually

believed; indeed for the vast majority of the population private ownership of the means of production does not exist and in so far as it exists for stockholders, it carries practically no rights of effective control of management. In short, what would disappear is not so much the institution of private property but the institution of income derived from property.

However, if national economic planning presupposes the abolition of private ownership of the means of production, the question of what happens to the freedom to save and to invest becomes one of major importance. Obviously, in the absence of private ownership freedom to invest (in the sense in which the term is used in the market economy) cannot exist. Again it is easy to overestimate the practical importance of the freedom to invest in existing society; the majority of the people do not invest since they have nothing to invest. Moreover, an ever increasing percentage of the national income in the United States and other countries is being invested either by corporate management boards or by collective decisions of public agencies for long-term capital outlays of various sorts. Keynesian doctrine and policy merely accentuated a trend of increasing public investment that has long been in existence. And yet, the problem of investment raises some of the most fundamental problems of national economic planning. When the planning authority decides to allocate the nation's resources to the production of consumers' or capital goods in definite proportion, it makes a typical decision reflecting a rate of preference for present as against future goods. This social decision which is one of the most important decisions of the planning act inevitably raises issues of individual freedom because it may not be in harmony with the time preference of individuals. In other words, the social time preference upon which the decision is based may be out of line and actually conflict with individual time preferences.

Indeed, there is a strong presumption that the *social* time preference for future goods will tend to exceed the individual's preference for such goods. That is to say the individual usually has a higher preference for present goods than the community. This difference in time preference is due not merely to the fact that for mankind as a whole there exist practically unlimited opportunities of technological change and innovations but to the shorter life-span and hence the planning period of the individual as compared with that of the community. There will always be long-run investment projects the

full results of which cannot be realized within the life-span of the individual. In view of these facts it is probable that even in normal times the rate of investment (based upon the lower social time preference) will be higher than that which would correspond to the preference of individuals for present goods. While the market system may leave us with untapped social investment opportunities due to the fact that the rate of saving and investment is determined by the relatively high individual time preference,¹¹ a system of national economic planning seems to expose us to a rate of investment in excess of that which would correspond to the individual time preference.

This difference between social and individual time preference doubtless points to the most important danger which threatens individual freedom under national economic planning. For obviously, the conflict is not solved by the manipulation of prices, interest rates or the volume of taxation in an effort to reduce consumption and adapt it to the established level of investment. All such measures would be in effect equivalent to a campaign of forced savings designed to adjust the individual's time preference to that of the planning board. There is only one solution of this dilemma: that is to recognize that the rate of investment (or the social time preference) is the political problem *par excellence* of any planned society. This decision is a political choice which can be solved in harmony with the principles of political democracy and effective human freedom only if it is made the object of a political referendum. In other words, political democracy and human freedom under planning require that individuals be assured an effective political choice between alternative rates of investment. In practice, this cannot be achieved by a totalitarian single party system or for that matter by the establishment of so-called bi-partisan policies. It calls clearly for an opposition party capable of raising the issues and giving the voters an opportunity of expressing their preferences through the ballot. In short, here as in all other spheres of political life, an opposition serves an essential role without which political democracy cannot exist. Just as it is possible to bring such issues as the American European Recovery Programme

¹¹ The resulting danger of "starving the public sector" in an affluent society particularly under the influence of modern methods of sales promotion has been analyzed by J. K. Galbraith, *The Affluent Society*, Boston, Houghton, Mifflin and Co., 1958.

(1948), or the current Foreign Aid programmes or any other conceivable social objective before the public or its representatives, it would be possible to make the rate of domestic public investment a matter of political choice. In any event there is nothing in the nature of a system of national economic planning based upon collective ownership to rule out such a political choice.

Compared with the problem of planned investments, and its impact on individual freedom, all remaining questions are considerably more simple. As regards the freedom to choose one's occupation and to move freely from one place to another, no real theoretical difficulties exist. Free choice of occupation and residence is compatible with national economic planning provided a sufficient differentiation of income is used as an inducement to coordinate individual plans with the requirements of the national economic plan. The resulting inequalities in the distribution of income would not be based upon inequalities in the distribution of property but upon some labour-market appraisal of the relative disutility involved in the different kinds of work at different places. Does this mean that the freedom to strike for higher wages or for whatever purpose it may be, is compatible with national economic planning? The answer is unequivocally: no. In a planned economy a strike and the resulting stoppage of production would be directed not against an individual employer but necessarily against the political decision of the plan. What in a market economy may be defended at least up to a certain point as a means of offsetting the inequalities of individual bargaining turns out to be in a planned society almost a subversive act.

The maintenance of free choice of consumers to spend their income in accordance with their preferences offers no insurmountable difficulties. As long as income is paid out in the form of a general means of exchange and as long as consumers' goods and services are produced and priced in accordance with estimated demand—a decision for which the planning board possesses all the necessary data in the form of total income paid out to different income groups, their previous demand and their average propensity to save—the individual consumer is perfectly free to consume in accordance with his preferences.¹²

¹² For a more detailed treatment of this highly overestimated problem see Carl Landauer, *Theory of National Economic Planning*, Berkeley, 1947, Ch. 3. see esp. pp. 97 sqq.

There are various ways of dealing with dissatisfaction regarding the execution of the plan and with complaints concerning either wages, working conditions, prices or quality of products which are either long-run or short-run. The ultimate remedy for both labourers and consumers would be a change of the political and planning personnel by means of the ballot. In other words, inefficiency in the execution of the plan and other sources of dissatisfaction in a planned society are political issues just as foreign affairs or taxation which can be settled by compromise or a change of political administration. Here again it becomes evident that there must be an effective opposition in a planned society if basic economic liberties are to be preserved. In addition there is need for regular procedures to settle controversies in the short-run that is until they are resolved either by compromise or final change of administration. Such machinery would probably include some form of compulsory arbitration for the settlement of labour and wage disputes. In fact, a good deal of what Beveridge wrote concerning the determination of wages and compulsory arbitration, under conditions of full employment applies precisely to a planned society.¹³ As far as consumers' complaints are concerned the most effective remedies are public hearings, parliamentary investigation and general elections. If these outlets for the airing of public sentiment are provided for, they offer probably greater and more effective protection to the consumers than he enjoys under conditions of monopolistic competition and at least as many safeguards as he has as a consumer of the services of privately owned public utility industries.

In conclusion, it may be pointed out that neither the market economy nor the system of national economic planning can claim a monopoly of individual and political freedom. Both forms of economic organization may restrict individual liberty and the human personality. Neither the capitalist market economy nor national economic planning offer an absolute guarantee against totalitarianism and the subordination of the individual under arbitrary and absolute power. The dangers inherent in the market system result from the fact that the competitive process isolates the individual from his fellowmen and from himself; that it subordinates him almost without appeal to the authority of powerful monopolistic groups and institutions; that it exposes the in-

¹³ William H. Beveridge, *Full Employment in a Free Society, A Report*, London, 1945, pp. 198 sqq.

dividual to gross inequities and despair in times of economic maladjustments. In contrast, national economic planning carries with it the danger of a divergence between the social and the individual time preference. The solution of this possible conflict can be found only by making the decision as to the rate of investment unequivocally a matter of political choice along the lines of traditional political democracy with specific safeguards for an organized opposition. Whether the transfer of decision-making from individual investors to a central planning board will actually give rise to the end of popular control of economic decisions is a question which cannot be answered categorically and without reference to the concrete historical situation. In the Soviet-Union the transition took place in a country without a tradition of popular control and under economic and political conditions under which industrialization in record time without regard to the preferences of individuals became the supreme objective of economic planning. In other countries and particularly in the United States, with its tradition of popular control of economic institutions and its well developed productive apparatus, the transition to national economic planning need not be purchased at the price of surrendering popular government and individual freedom. As A. M. Schlesinger has pointed out "Our great democratic leaders—Jefferson, Jackson, Lincoln, Theodore Roosevelt, Wilson, Franklin D. Roosevelt—have led the fight for the popular control of our economic institutions. The American people, when they sustained Andrew Jackson in his fight against the United States Bank, made unmistakably clear for all time their conviction that basic economic decisions were matters of democratic responsibility and could not be left in private and irresponsible hands."¹⁴ But let there be no mistake the history of American democracy also indicates, as A. M. Schlesinger states, that the fight for popular control of economic life "like the battle for personal freedom is a fight which never ends."¹⁵ It will have to be continued under any form of economic organization.

There can hardly be any doubt that India's future economic development and her political independence can be secured only by far-reaching institutional changes toward greater substantive

¹⁴ A. M. Schlesinger, "Challenge to Teaching", *New York Herald Tribune*, March 8, 1948.

¹⁵ *Ibid.*

freedom in the sense of greater equality of opportunities and social and economic mobility. This is the issue and the choice is between stagnation and foreign rule on the one hand and equality and freedom on the other. The obstacles cannot be removed by permitting things to take their "natural" course because this would perpetuate a circular process of stagnation. What is called for is an induced and controlled cumulative process in the opposite direction. This can be achieved only by national economic development plans which through deliberate state interferences progressively remove the institutional road blocks to greater inequality of opportunities and freedom. Such plans are not simply budgets, or lists of projects that might be desirable and can be undertaken with the least political opposition but clearly worked-out plans of action which, after isolating strategic factors, determine the priorities of social reform and social investment and establish the machinery for their implementation.

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together with the related administrative defects have retarded economic growth in India in the past and are likely to frustrate the aims of economic development in the future. Accelerated economic growth presupposes far-reaching social, economic and institutional changes. Such changes can be achieved only through deliberate and coordinated action in the form of social education, persuasion, legislative enactments and their effective implementation.

PROFESSOR KAPP has spent two years in India: 1957-58 as a Fulbright Research Professor at the Gokhale Institute of Politics and Economics in Poona, and 1961-62 as a Fulbright Lecturer at the University of Rajasthan in Jaipur. He has travelled extensively in India and South-East Asia and has been particularly interested in the economics of regional development projects and the effects of irrigation. Prior to his joining Brooklyn College at the City University of New York, he taught at New York University, Columbia University and Wesleyan University. He is also the author of *The Social Costs of Business Enterprise* ; *Toward a Science of Man in Society* ; *History of Economic Thought—A Book of Readings* ; and *Planwirtschaft und Aussenhandel*.

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K. WILLIAM KAPP

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